



This is a digital copy of a book that was preserved for generations on library shelves before it was carefully scanned by Google as part of a project to make the world's books discoverable online.

It has survived long enough for the copyright to expire and the book to enter the public domain. A public domain book is one that was never subject to copyright or whose legal copyright term has expired. Whether a book is in the public domain may vary country to country. Public domain books are our gateways to the past, representing a wealth of history, culture and knowledge that's often difficult to discover.

Marks, notations and other marginalia present in the original volume will appear in this file - a reminder of this book's long journey from the publisher to a library and finally to you.

### Usage guidelines

Google is proud to partner with libraries to digitize public domain materials and make them widely accessible. Public domain books belong to the public and we are merely their custodians. Nevertheless, this work is expensive, so in order to keep providing this resource, we have taken steps to prevent abuse by commercial parties, including placing technical restrictions on automated querying.

We also ask that you:

- + *Make non-commercial use of the files* We designed Google Book Search for use by individuals, and we request that you use these files for personal, non-commercial purposes.
- + *Refrain from automated querying* Do not send automated queries of any sort to Google's system: If you are conducting research on machine translation, optical character recognition or other areas where access to a large amount of text is helpful, please contact us. We encourage the use of public domain materials for these purposes and may be able to help.
- + *Maintain attribution* The Google "watermark" you see on each file is essential for informing people about this project and helping them find additional materials through Google Book Search. Please do not remove it.
- + *Keep it legal* Whatever your use, remember that you are responsible for ensuring that what you are doing is legal. Do not assume that just because we believe a book is in the public domain for users in the United States, that the work is also in the public domain for users in other countries. Whether a book is still in copyright varies from country to country, and we can't offer guidance on whether any specific use of any specific book is allowed. Please do not assume that a book's appearance in Google Book Search means it can be used in any manner anywhere in the world. Copyright infringement liability can be quite severe.

### About Google Book Search

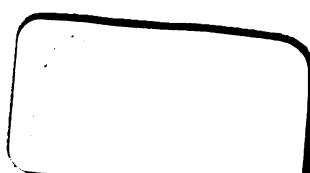
Google's mission is to organize the world's information and to make it universally accessible and useful. Google Book Search helps readers discover the world's books while helping authors and publishers reach new audiences. You can search through the full text of this book on the web at <http://books.google.com/>



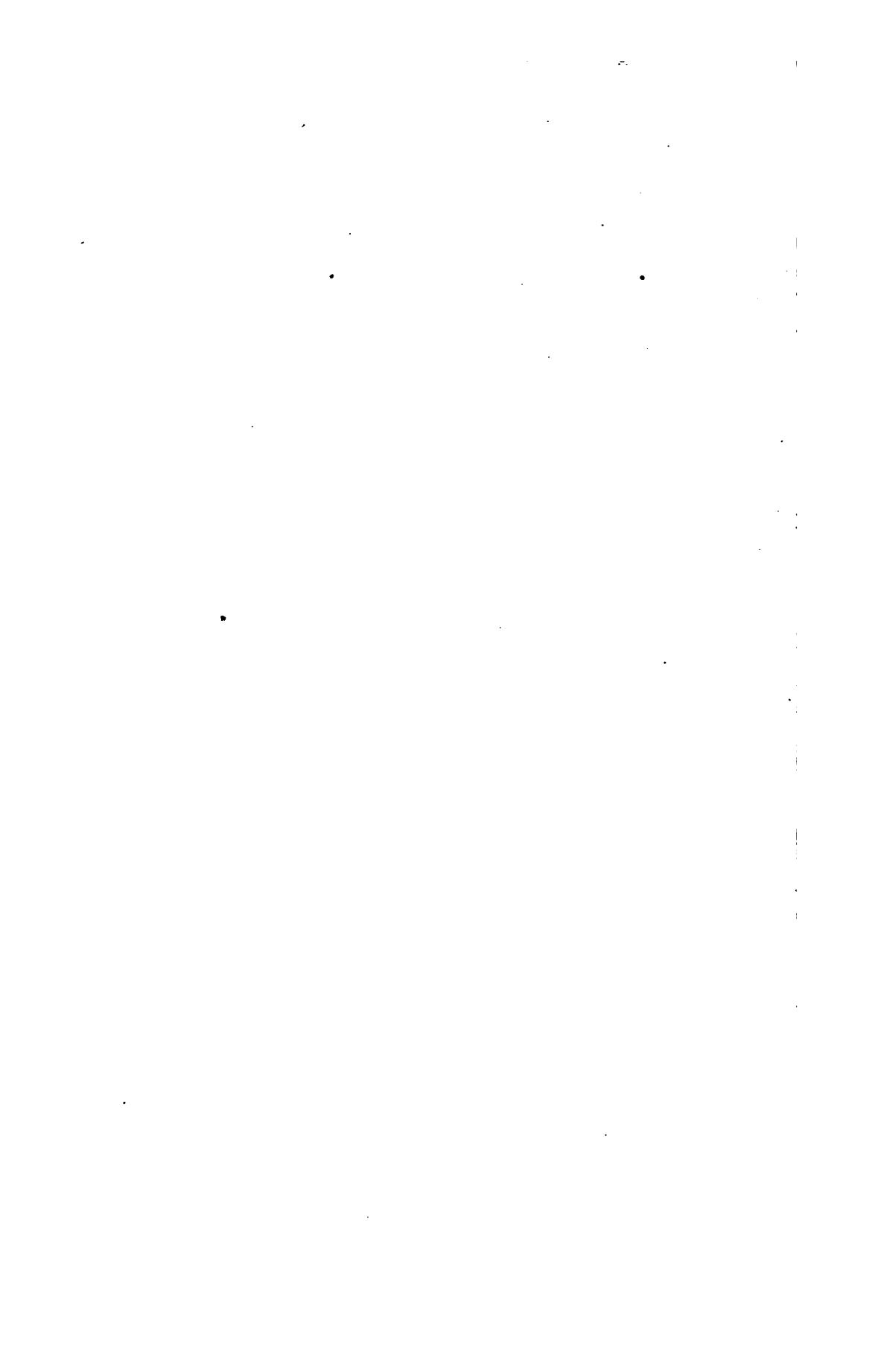


600016467U

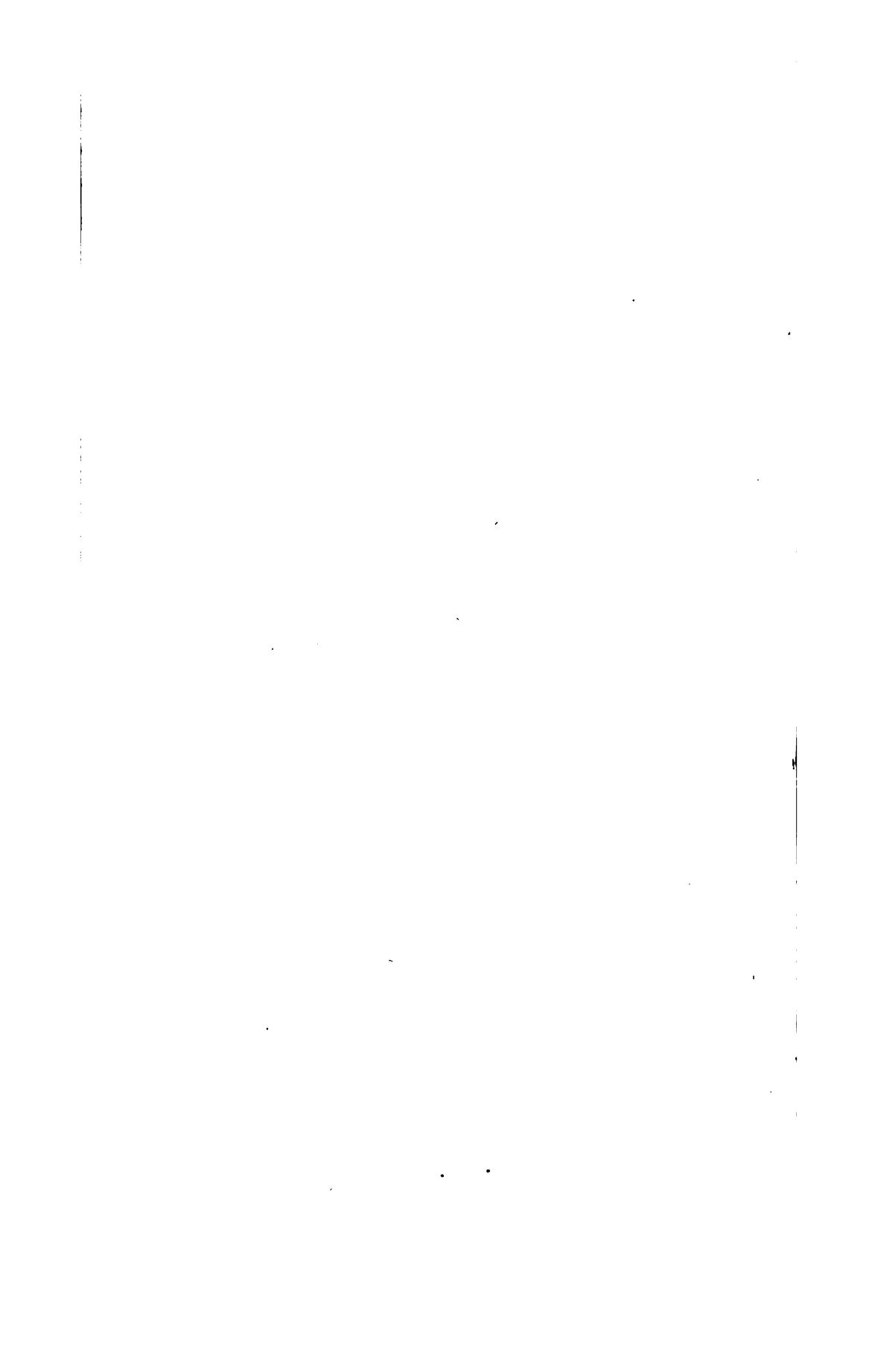
19113 d. 12  
12











# HOOKER'S ICONES PLANTARUM;

OR,

FIGURES, WITH DESCRIPTIVE CHARACTERS AND REMARKS,  
OF NEW AND RARE PLANTS,

SELECTED FROM THE

## K E W H E R B A R I U M .

---

### THIRD SERIES.

---

EDITED BY

JOSEPH DALTON HOOKER, M.D., F.R.S. L.S. & G.S.,

D.C.L. OXON., LL.D. CANTAB., CORRESP. MEMB. INST. FRANCE.

VOL. II.,  
OR VOL. XII. OF THE ENTIRE WORK.

LONDON :  
WILLIAMS AND NORGATE,  
14, HENRIETTA STREET, COVENT GARDEN.  
1876.

LONDON : PRINTED BY  
SPOTTISWOODE AND CO., NEW-STREET SQUARE  
AND PARLIAMENT STREET

## PLATE 1101.

**PENTACHÆTA GRACILIS, Benth.**

COMPOSITÆ, Tribe ASTEROIDÆ.

**P. gracilis, Benth. sp. nov.**; caule erecto stricto subcorymboso-ramoso, receptaculo convexo subconico, styli disci ramis acutiusculis.

HAB. Mexico; gneiss rocks, near Juquila Zacatepeque, at an elevation of 4000 to 6500 ft., prov. Oaxaca, *Galeotti*, n. 2057; described from specimens in the herbarium of the Royal Museum, Brussels.

*Herba* annua, erecta, subpedalis, ramis paucis gracilibus subfiliformibus, basi pilis crispis sublanata, superne glabra v. parce pilosula. *Folia* alterna v. inferiora opposita, linearia v. inferiora linear-lanceolata, acuta, integerrima v. rarius paucidentata, inferiora pollicaria, superiora minima angustissima. *Capitula* ad apices ramorum pedunculata, parva. *Involutum* late campanulatum, circa 2 lin. diametro, bracteis 2-seriatis subæqualibus angustis rigide carinatis margine anguste scariosis. *Receptaculum* convexo-conicum, nudum. *Corolla* ♀ 15-20, 1-seriatæ, ligula patente linea paulo longiore 3-dentata; ♂ involucrum paulo superantes, limbo cylindraceo vix ampliato apice pubescente brevissimeque 5-fido. *Antheræ* basi obtusæ, integræ. *Styli* ♂ rami apice leviter complanati, in appendices acutiusculas producti, dorso papillosi. *Achenia* juniora linearia, glabra, pappi setis 5 tenuisimis subbarbellatis, ima basi brevissime dilatatis.

I had some hesitation in referring this plant to *Pentachæta*, as the style-branches with their appendages appeared to be rather broader (not quite so obtuse, however, as represented in our Plate), and the opposite lower leaves seemed to connect it technically with *Helenioideæ*; but on the whole it appears too nearly allied to *P. aurea*, Nutt., to be generically separated from it. The latter may be technically distinguished by the following diagnosis:—*P. aurea*, Nutt.; ramis laxis monocephalis, receptaculo plano, styli disci ramis subulatis.—G. BENTHAM.

Fig. 1. Female ray-floret. 2. Summit of its style. 3. Disk-floret. 4. Three of the stamens. 5. Summit of the style. 6. Seta of the pappus.

## PLATE 1102.

## STACHYCEPHALUM MEXICANUM, Sch. Bip.

COMPOSITÆ, Tribe HELIANTHOIDÆ.

**Stachycephalum**, Sch. Bip. gen. nov. *Capitula* heterogama, radiata, flore radii 1 ♀ fertili, disci paucis ♂ sterilibus. *Involucrum* ovoideum, post anthesin vix mutatum, bracteis tenuiter membranaceis, una lata concava subcucullata, 2 v. 3 minoribus angustis tenuibus. *Receptaculum* parvum, nudum. *Corolla* ♀ ligulata, lamina exserta lata patente 3-dentata; ♂ regulares, tubo brevi, limbo late campanulato apice 5-lobo. *Anthæ* basi auriculis parvis acutis ecaudatis sagittatae. *Stylus* fl. ♂ indivisus. *Achænum* radii ovoideum, compressiusculum, calvum, involuci bractea majore membranacea arte inclusum, pericarpio crustaceo; achænia disci angusta, vacua. —*Herba glabra*. *Folia opposita, dentata*. *Capitula minima, numerosa, cymulosa, cymulis in paniculam trichotomam corymbosam disposita*. *Corollæ flavæ*.

**S. mexicanum**, Sch. Bip. sp. unica.

HAB. Mexico, near Oaxaca, *Franco*. Described from a single specimen in the herbarium of the late Dr. Schultz-Bipontinas, now forming part of that of M. Cossion.

*Herba* erecta, trichotoma, glabra v. vix superne minutissime puberula, ramis tenuibus. *Folia* opposita, petiolata, ovato-lanceolata, acuminata, dentata, majora 2-3½-pollicaria, petiolo gracili ad caulem breviter dilatato. *Cymæ* terminales pedunculatae, graciles, ramosissimæ, bracteis ramulos subtendentibus parvis squamæformibus. *Capitula* secus ramulos ultimos sessilia v. brevissime pedunculata. *Involucrum* vix linea longius. *Florum* ♀ lamina fere orbiculata, lineam diametro, patentissima v. reflexa.

The genus is nearly allied to *Milleria*, but differs too much in the involucre and general inflorescence to be united with it.—G. BENTHAM.

Figs. 1 and 2. Flower-head. 3. Female floret. 4. Summit of its style. 5. Achene. 6. Disk-floret. 7. Three of its stamens. 8. Sterile achene and style.

## PLATE 1103.

## OLIVÆA TRICUSPIS, Sch. Bip.

COMPOSITÆ, Tribe HELENIOIDÆ.

**Olivæa**, Sch. Bip. gen. nov. *Capitula* heterogama, radiata, floribus radii fœmineis 1-seriatis discique hermaphroditibus fertilibus. *Involucrum* late

hemisphaericum, bracteis 3-4-seriatis lanceolatis subherbaceis inaequalibus apice laxis. *Receptaculum* planum, nudum. *Corolla* ♀ ligulata, lamina patente apice vix dentata; ♂ regulares, tubo glanduloso-hispido, limbo ampliato cylindraceo-campanulato, apice 5-fido. *Antheræ* basi obtusæ, ecaudatae. *Styli* florum disci rami complanati, appendicibus lanceolatis hirtis superati. *Achænia* a latere plano-compressa, ovata, 2-alata, v. florum fæmineorum 3-alata; pappi setæ ad 10, breviter plumosæ, caducissimæ.—*Herba?* *foliis alternis integris v. dentatis.* Capitula majuscula, terminalia. *Corollæ* flavae.

**O. tricuspis, Sch. Bip. mss.**

HAB. Near Guadalaxara, Mexico, Schaffner, n. 346; described from specimens in Herb. Cosson.

*Herba* videtur pedalis v. altior, verisimiliter paludosa, erecta, caule crassiusculo glabro v. superne leviter papilloso-pubescente. *Folia* sessilia, basi cordato-amplexicaulia, anguste lanceolata, integerrima v. basin versus paucidentata, et nonnulla apice 2-dentata v. breviter 3-fida, majora 2-2½ poll. longa, superiora minora, omnia glabra utrinque viridia et 1-nervia. *Capitula* ad apices ramorum solitaria, breviter pedunculata. *Involucrum* ¼ poll. diametro; bractæ anguste lanceolatae, exteriores herbaceæ disco æquilongæ v. hinc inde elongatae, interiores magis scariosæ leviter papilloso-puberulæ. *Flores* radii circa 30, ligulis semipollicaribus, disci numerosissimi, omnes ut videtur flavi. *Achænia* glabra.—G. BENTHAM.

Fig. 1. Female flower with the young achene. 2. Its style. 3. A bristle of the pappus. 4. Hermaphrodite flower with the achene nearly ripe. 5. Three of the stamens. 6. Summit of the style.

---

PLATE 1104.

**CLAPPIA AURANTIACA, Benth.**

COMPOSITÆ, Tribe HELENOIDÆ.

**C. aurantiaca, Benth. sp. nov.**; foliis pinnatisectis, segmentis 5-7 ovatis acutis serratis, involueri bracteis 20-seriatis angustis, pappi paleis 1-seriatis fere ad basin in setas 20 fissis.

HAB. Fields of Antigua, prov. Vera Cruz, Mexico, Galeotti, n. 2270; described from a single specimen in the State Herbarium, Brussels.

*Herba* ex cl. Galeotti annua, glabra, ramosa, ut videtur ultrapedalis. *Molia* alterna, segmentis oppositis cum impari, secus rhachin distantibus, sessilibus v. parisi infimi petiolulatis, ovatis v. ovato-lanceolatis acutis arguteque serratis

$\frac{1}{2}$ -1-pollicaribus, utrinque viridibus haud tamen glandulosis, petiolo communi (cum rhachii)  $\frac{1}{2}$ -1 poll. longo, basi ciliis paucis longis more *Pectidis* aucto. *Capitula* majuscula, solitaria, longiuscula pedunculata. *Involuci* bracteæ pluriseriatæ, numerosæ, lineari-lanceolatæ, acuminate, interiores 6-7 lin. longæ, exteriore gradatim breviores. *Receptaculum* convexiusculum, setis longis inter flores onustum. *Flores* *radii* uniseriati fœminei 15-20; corollæ tubo gracili involucro paullo breviore, lamina patente late oblonga integra semipollicari. *Flores* *disci* numerosi, ut videtur fertiles; corollæ involucro paullo longiores, limbi lobis linearibus erectis lineam longis. *Antheræ* corolla breviores. *Achenia* immatura lineari-cuneata, obscure 10-costata; pappi paleæ circa 10, in setas plurimas inæquales fissæ, centralibus cujusvis paleæ corollam subæquantibus.—G. BENTHAM.

Fig. 1. Floret of the ray. 2. Summit of its style. 3. Floret of the disk. 4. Three of its anthers. 5. Summit of its style. 6. Palea of the pappus. 7. Section of the receptacle. 8. Two of its setæ.

## PLATE 1105.

### CLAPPIA SUÆDÆFOLIA, Torr.

#### COMPOSITÆ, Tribe HELENIOIDÆ.

**C. susedæfolia**, A. Gr. in Torr. *Bot. Emory Exped.* 93; foliis angustæ linearibus carnosulis integris v. pinnatim 3-5-sectis, involuci bracteis pauciseriatæ latiusculis, pappi setis indivisis basi rigidulis inæqualibus barbellatis.

HAB. Laredo, on the lower Rio Grande, Texas, *Berlandier*.

*Herba* e basi perenni ramosa, subpedalis, carnosula, glabra. *Folia* alterna, in parte inferiore caulis conferta, nonnulla pinnatim 3-5-secta, segmentis foliisque cæteris subteretibus carnosulis parce glanduloso-punctatis  $\frac{1}{2}$ -1-pollicaribus, superiora parva distantia. *Capitula* ad apices ramorum pedunculata, pedunculo sub involucro parum incrassato. *Involuci* bracteæ pauciseriatæ, latiusculæ, obtusæ, subglanduloso-striatæ, exteriore breviores. *Receptaculum* convexum, setis rigidulis achenio æqualibus longioribusve inter flores onustum. *Flores* *radii* circa 15, lamina quam in *C. aurantiaca* angustiore. *Flores* *disci* numerosi, fertiles. *Achenia* immatura oblonga, obscure 6-10-costata, hirtella, pappi setis (15-20?) rigidis subpaleaceis barbellatis inæqualibus, plus minus complanatis at inter se liberis.

The original specimens described by A. Gray were in a very imperfect state, and the pinnatipartite lower leaves either had fallen away or were overlooked. The specimens in the Kew herbarium are rather better, but yet

the flowers are so rotten that it is possible that some slight errors may have crept into the character given. The genus certainly connects the *Helenioidæ* *Tagetinæ* with the *Senecionidæ* but appears to be most nearly allied to the former, notwithstanding the exceptional setæ of the receptacle.—G. BENTHAM.

Fig. 1. Involucre and receptacle, longitudinal section. 2. Ray-floret. 3. Summit of its style. 4. Disk-floret, with an enlarged seta of the pappus. 5. Three of the stamens. 6. Summit of its style. 7. Unripe achene.

---

## PLATE 1106.

### BRACHYACTIS MENTHODORA, Benth.

#### COMPOSITÆ, Tribe ASTEROIDÆ.

**B. menthodora**, Benth. sp. nov.; glanduloso-pubescent, caule e basi perenni erecto elato, foliis ovatis oblongis dentatis, inferioribus longe petiolatis, superioribus angustis sessilibus, plerisque basi amplexicaulibus, receptaculo plano, ligulis stylo suo longioribus.

HAB. Sikkim Himalaya, at an elevation of 10,000 to 13,000 ft. The whole plant has a strong, sweet, mint-like scent.

*Caulis* 1-2-pedales, parum ramosi, demum glabrescentes. *Folia* radicalia lata, in petiolum longum tenuem contracta; caulina inferiora brevius petiolata, superiora 1-2-pollicaria, prope basin contracta, ima basi sepe amplexicauli-dilatata et interdum breviter decurrentia. *Capitula* magnitudine eorum *B. ciliatæ*, in axillis superioribus breviter pedunculata, solitaria v. pauca conferta, ad apices caulis ramorumque primariorum plurima conferta. *Involuci* bractæ 3-4 lin. longæ, 2-3-seriatæ, parum inaequales, herbaceæ, interiores margine scariosæ, una alterave exteriorum interdum magis foliacea et capitulo longiore. *Receptaculum* haud foveolatum. *Corolla* fl. ♀ sub-2-seriatæ, ligulis angustissimis pallide cærulescentibus stylo suo longioribus, pappum vero vix superantibus. *Corolla* fl. ♂ disci tubo tenui, limbo breviter campanulato. *Styli* rami omnino Asteroidearum, angusti, complanati, appendicibus lanceolatis terminati. *Achænia* anguste obovato-oblonga, plano-compressa, basi contracta, apice rotundata, margine nerviformi cincta, faciebus ecostatis pilosis. *Pappus* sordidus, achænio parum longior.

Fig. 1. Involucre and receptacle, longitudinal section. 2. Ray-floret. 3. Summit of its style. 4. Disk-floret. 5. Three of its stamens. 6. Summit of its style. 7. A seta of the pappus.

Closely allied as this species is to several genera of *Asteroideæ* there was some difficulty in fixing upon the one to which it should be referred, but upon the whole it appeared the nearest allied to *Brachyactis*, of which it has

the inflorescence, and from which it only differs in the rather more developed ligulæ of the ray-florets. The typical *B. ciliata* of Ledebour, originally published by him as an *Erigeron*, referred by De Candolle to *Conyza*, included in *Aster* by Torrey and Gray, has now been referred back to *Erigeron* by Russian botanists, and is certainly technically connected with all three, especially with *Erigeron* and *Conyza*. Unless, however, the three genera, together with six or seven of their allies, are united into one overgrown genus, which even then would not be very distinctly limited, it appears necessary to keep up *Brachyactis*, which with most of the characters and nearly the habit of *Lachnophyllum* has not the involucre of that genus, and differs from *Erigeron* in the small ligulæ, leafy stems, short peduncles, etc., from *Conyza* in the ligulate female florets and habit. The following are the species I should refer to *Brachyactis* :—

1. *B. ciliata*, Ledeb. Fl. Ross. ii. 495 ; annua, ramosissima, glabrescens, foliis linearibus integris, receptaculo leviter foveolato, ligulis stylo suo brevioribus v. minimis.—*Erigeron ciliatus*, Ledeb. Fl. Alt. iv. 92 ; Ic. Fl. Ross. t. 100. *Conyza altaica*, DC. Prod. v. 380. *Crinitaria humilis*, Hook. Fl. Bor. Amer. ii. 24. *Tripolium angustum*, Lindl. in Hook. Fl. Bor. Amer. ii. 15. *Aster angustus*, Torr. et Gr. Fl. N. Amer. ii. 162.

HAB. Altai and Alatau mountains, and Songaria, *Lebedour*, *Karelin* and *Kiriloff*, *Schrenck*, and others; on the Saskatchewan and towards the Rocky Mountains, *Drummond*, *Richardson*, *Bourgeau*.

Var. *carnosula* ; foliis carnosulis, involucri bracteis obtusioribus.

HAB. New Mexico, *Wright*, n. 1161 ; Sonora Pass, *Bolander*, n. 6160.

2. *B. umbrosa*; annua? glanduloso-villosa, caule gracili ramoso, foliis obovatis cuneatisve dentatis in petiolum longiusculum contractis, receptaculo plano, ligulis minimis.—*Conyza umbrosa*, Karel. et Kir. in Ledeb. Fl. Ross. ii. 498.

HAB. Alatau Mountains, *Karelin* and *Kiriloff*, also *Semenov*, from specimens sent from St. Petersburg under the name of *B. ciliata*, perhaps from the misplacement of a label; Western Thibet, *T. Thomson*, *Stewart*; Lahul, *Jeschke*, 2nd coll. n. 71.

Caules erecti v. adscendentes, ramosi, tenues,  $\frac{1}{2}$ —1-pedales. Folia tenuia, grosse dentata. Inflorescentia et flores fere *B. ciliata*, capitula tamen minora et pappus minus copiosus. Ligulæ ovatae v. oblongæ, stylo multo breviores, sepe pilosulæ.

3. *B. robusta*, sp. nov.; annua? glanduloso-pubescentia, caule valido erecto ramoso, foliis obovatis dentatis in petiolum brevem contractis, receptaculo lato foveolato, ligulis minimis.

HAB. Thibet, *T. Thomson*; Gurwhal, *M. P. Edgeworth*; Kamaon, *Strachey* and *Winterbottom*, *Falconer*.

4. *B. umbrose* affinis, sed multo major, capitulis duplo majoribus et receptaculo insigniter foveolato facile distincta.

*B. obovata*, sp. nov. ; villosa, caulis e basi perenni adscendentibus oligocephalis, foliis obovatis subdentatis basi angustatis subpetiolatis, ligulis minimis.

HAB. Mesopotamia or Kurdistan, *Kotschy*, n. 546a.

*Caules* vix semipedales. *Folia* infima conferta subradicalia ultrapollicaria, caulina minora petiolo basi non dilatata. *Capitula* fere *B. ciliatae* sed achænia ut in *B. menthodora* multo majora fere *Vittadiniæ*, pappo rigidiori. Primo intuitu *Erigeronti persico*, Boiss. subsimilis, sed caule foliato involucro achæniisque facile distincta.

5. *B. menthodora*, uti supra.—G. BENTHAM.

---

## PLATE 1107.

### LACHNOHYLLUM NOEANUM, Boiss.

#### COMPOSITÆ, Tribe ASTEROIDÆ.

*L. noeicum*, Boiss. *Diagn. Pl. Or. ser. 2. iii. 17*; molliter villosum et glanduloso-viscidum, caule robusto, ramis pleiocephalis, foliis oblongis v. oblongo-spathulatis integris.

HAB. In the Alps of Kurdistan, *Noé*, n. 571 ; in the valley of Nanderbent, near Kermanschah, *Haussknecht*; Mount Bimgoell, between Musch and Erzerum, *Kotschy It. Olic. Suppl.* n. 828.

*Radix* annua videtur, etsi dura. *Caules* erecti, validi, 1-1½-pedales, additis e basi pluribus tenuioribus adscendentibus brevibusque. *Tota planta* pilis longis mollibus et pube glanduloso-viscida vestita. *Folia* radicalia et ima conferta, oblongo-spathulata, basi longe contracta at vix petiolata, pollicaria, caulina oblonga infra medium dilatata et auriculis rotundatis cordato-amplexicaulia, summa parva. *Capitula* ad apices ramulorum brevium breviter pedunculata v. in caule primario laxius irregulariterque corymboso-paniculata, pedunculis longioribus. *Involucrum* campanulatum, bracteis pluriseriatim angustis acutis, interioribus 4-5 lin. longis margine scariosis, exterioribus gradatim brevioribus dorso hirtis. *Flores* radii sub-2-seriati, ligulis vix 2 lin. longis, disci numerosi involucrum vix sequentes. *Achenia* 1 lin. longa, compressa at crassiuscula, nervo marginata, sericeo-villosula, apice sub pappo brevissime contracta. *Pappi* setæ copiosæ, inæquales, basi annulo persistenti affixæ at sigillatim caducæ.

The typical *L. gossypinum*, Bunge, differs from this species in its slender habit, small broad short leaves, and slender single-headed branches. Further discoveries may, however, possibly connect the two forms. Our drawing was made from Haussknecht's specimens, which although distributed under the name of *Erigeron flagellare*, Boiss. et Hausskn., I readily recognised as a *Lachnophyllum*, and on communicating with M. Boissier I learnt from him that he did not doubt its identity with his *L. Noeanum*, although he had mislaid his specimens of the latter. I have since found in the Hookerian herbarium specimens from Noé, much more perfect than those drawn, showing the primary stems with a loose inflorescence, which are wanting in Haussknecht's, and bearing also some ripe achenes.—G. BENTHAM.

Fig. 1. Involucre and receptacle, longitudinal section. 2. Ray-floret. 3. Summit of its style. 4. Setæ of its pappus. 5. Disk-floret. 6. Three of its stamens. 7. Summit of its style.

## PLATE 1108.

### FRESENCIA FASCICULATA, *Bolus*.

COMPOSITE, Tribe ASTEROIDEÆ.

**F. fasciculata**, *Bol.* sp. nov.; foliis linearis-semiteretibus carnosulis glabris ad axillas fasciculatis.

HAB. South Africa; in rocky places at Poortje on the Sneeuberg, between Graaff-Reinet and Murraysburg, fl. December, *H. Bolus*.

*Suffrutex* 2-3-pedalis, parce ramosus, undique glaber. *Folia* dense fasciculata, obtusa, mucronulata, lœvia, pellucido-punctata, 6-9 lin. longa,  $\frac{1}{2}$  lin. lata. *Capitula* e foliorum fasciculis solitaria, pedunculata, pedunculo 2-pollicari infra medium 1-bracteato. *Involucrum* oblongum, bracteis 4-seriatis linearibus membranaceis, costa viridi apice in glandulam lucidam producta, apice sphacelata ciliolataque. *Flores* flavi, involucri bracteis dimidio longiores. *Achenia* obovato-oblonga, pilis purpurascensibus subhyalinis sericeo-villosa.—*H. Bolus*.

Figs. 1 and 2. Leaves. 3. Involucre and receptacle, longitudinal section. 4. Floret. 5. Three of the stamens. 6. Summit of the style. 7. Seta of the pappus.

## PLATE 1109.

**ANAGLYPHA ACICULARIS, Benth.**

COMPOSITÆ, Tribe INULOIDEÆ RELHANIEÆ.

**Anaglypha, DC?** *Capitula* heterogama, radiata, floribus radiis femineis 1-seriatis discique hermaphroditis fertilibus. *Involucrum* late campanulatum, bracteis pauciseriatis imbricatis acutis interioribus lanceolatis margine scariosis exterioribus linearis-subulatis brevioribus. *Receptaculum* planum, nudum. *Corolla* femineæ ligulata, lamina patente apice minute 3-dentata, disci regulares, tubulose, limbo ampliato semi-5-fido. *Antheræ* basi sagittatæ, auriculis contiguis connatis setaceo-caudatis. *Styli* florum disci rami apice truncati. *Achænia* (immatura) subteretia, 5-costata, glabra, calva.—*Frutex*, *foliis confertis acicularibus*. *Capitula ad apices ramorum solitaria, pedunculata*. *Corolla aurantiacea*.

**A. acicularis, Benth. sp. nov.!** *foliis acicularibus rectis.*

HAB. South Africa, Cape Colony, district George, between Cloet's kraal and Paarde-kraal, Burchell, n. 5159.

*Frutex* pedalis, caulis pluribus erectis stricte ramosis, ramulis glutinoso-puberulis foliisque pilis brevibus rigidulis conspersis. *Folia* alterna, conferta, acicularia, linearis-semiteretia, acutissima,  $\frac{1}{2}$ -1 poll. longa, demum reflexa. *Capitula* ad apices ramorum solitaria, pedunculo brevi fulta. *Involucrum* bracteæ interiores latiusculæ lanceolatae, breviter subulato-acuminatæ, margine scarioso-ciliolatae, circa 3 lin. longæ, intermedie angustiores, exteriores paucæ breviores subulatae. *Flores* radii ad 8, lamina fere 3 lin. longa, tubo hirtello brevi. *Corolla* disci involucro subæquilongæ.

The genus is allied to *Nestlera*, and has the habit of some species of that genus, but a very different involucre and no pappus. It had been placed by De Candolle under *Astroideæ* with appendiculate style-branches and tailless anthers, and Harvey had not seen it. I therefore failed to recognize it, and had it figured as new under the name of *Oxylena*. But having since observed that De Candolle had seen neither the styles nor the anthers of his *Anaglypha*, and the other characters agreeing with our plant, I have now little doubt but that it is a congener, and possibly a variety only of De Candolle's species with narrower more acicular leaves.—G. BENTHAM.

Fig. 1. Leaf. 2. Involucre and receptacle, longitudinal section. 3. Ray-floret. 4. Summit of its style. 5. Disk-floret. 6. Three of its stamens. 7. Summit of its style.

## PLATE 1110.

**HOMOCHÄTE CONFERTA, Benth.**

COMPOSITÆ, Tribe INULOIDEÆ EUINULEÆ.

**Homochæte, Benth. gen. nov.** *Capitula* heterogama, radiata, floribus radiis femineis 1-seriatis discique hermaphroditis fertilibus. *Involucrum*

ovoideum, cylindraceum, bracteis pluriseriatis imbricatis siccis subcoriaceis, interioribus angustis elongatis, exterioribus gradatim brevioribus. *Receptaculum* planum, nudum v. leviter foveolatum. *Corolla* fœmineæ ligulatæ, tubo longo, lamina patente subintegra; disci regulares, tubulosæ, limbo parum ampliato apice 5-fido. *Antheræ* basi sagittatæ, auriculis contiguis connatis longe setaceo-caudatis. *Styli* florum disci rami lineares, apice rotundati v. obtusissimi, exappendiculati. *Achænia* oblongo-subteretia, papilloso-pubescentia, 6–10-costata; pappi setæ 1-seriatæ, rigidulæ, subæquales, brevissime ciliato-barbellatae, basi in annulum deciduum plus minus connates.—*Frutex dense foliatus, glanduloso-pubescentia*. *Folia alterna, conferta, linearia, integerrima*. *Capitula terminalia, solitaria, sessilia*. *Corollæ verisimiliter flavæ*.

**H. conferta, Benth. sp. unica.**

HAB. South Africa; Taku's territory, British Caffraria, Sutherland.

*Frutex* undique pilis brevibus rigidulis sordide glanduloso-pubescentia. *Folia* conferta, linearia, obtusa, crassiuscula, marginibus revolutis, 5–8 lin. longa. *Capitula* inter folia superiora sessilia et ea vix v. non superantia. *Involucrum* semipollicare, bracteis præsertim exterioribus obtusis apice glutinoso-marginatis. *Corollarum* radii laminæ circa 3 lin. longæ.

The genus is nearly allied to *Inula*, but differs in inflorescence, involucre and pappus, besides its geographical station.—G. BENTHAM.

Figs. 1 and 2. Leaves. 3. Capitulum. 4. Involucre and receptacle, longitudinal section. 5. Ray-floret. 6. Summit of its style. 7. Seta of the pappus. 8. Disk-floret. 9. Three of its stamens. 10. Summit of its style.

PLATE 1111.

**CALOSTEPHANE DIVARICATA, Benth.**

COMPOSITÆ, Tribe INULOÏDEÆ EUNULEÆ.

**Calostephane, Benth. gen. nov.** *Capitula* heterogama, radiata, floribus radii fœmineis 1-seriatis discique hermaphroditis fertilibus. *Involucrum* subhemisphæricum, bracteis subbiseriatis parum inæqualibus herbaceis lineari-subulatis acutissimis. *Receptaculum* convexiusculum, foveolatum. *Corolla* radii ligulatæ, lamina patente 3-dentata; disci regulares, tubulosæ, limbo parum ampliato apice 5-fido. *Antheræ* basi sagittatæ, auriculis contiguis connatis acuminato-caudatis. *Styli* florum disci rami longe lineares, acuti, rigidæ, stigmatum seriebus ante apicem evanidis vix tamen appendiculati. *Achænia* oblonga, subteretia, 10-costata, villosula, exteriora

curvata; pappi paleæ 5, latæ, hyalinæ, denticulatæ, cum setis totidem paleaceis interioribus paullo longioribus serrato-barbellatis alternantes.—Herba, ramis rigidis alatis. Folia alterna, petiolata, subdentata. Capitula pedunculata. Corollæ flavae.

**C. divaricata**, Benth. sp. unica.

HAB. South-East Africa; Caimbo Island, opposite Tete, Kirk.

*Caules* herbacei, in speciminiibus nostris 1½-pedales, ramis paucis divaricatis rigidulis alis 2-3 angustis herbaceis a foliis decurrentibus percursis, parce puberulis glabratissive. *Folia* pauca, distantia, petiolata, ovato-lanceolata v. lanceolata, integra v. parce dentata, 1-2-pollicaria, summa parva, angusta. *Capitula* ad apices ramorum pedunculata, solitaria v. laxe irregulariterque corymbosa. *Involuci* bracteæ 2-3 lin. longæ, rigidulæ, dorso hirtellæ. *Florum* radii ligulæ latiusculæ, 2 lin. longæ. *Corolla* disci involucro æquilongæ, extus hirtellæ. *Pappus* maturitate eleganter patens, paleis exterioribus late cuneatis interioribus (v. setis) rigidioribus medio parum dilatatis.

Although technically allied to *Pulicaria* the plant differs too much in habit and in the pappus to be included within that genus, the style-branches are also much more acute than in the *Euinuleæ* generally.—G. BENTHAM.

Fig. 1. Involucre and receptacle, longitudinal section. 2. Ray-floret. 3. Summit of its style. 4. Disk-floret. 5. Three of its stamens. 6. Summit of its style. 7. Young achene. 8. Ripe achene, with the pappus spreading. 9. Outer paleæ. 10. Inner paleæ or setæ of the pappus.

---

PLATE 1112.

**ONDETIA LINEARIS**, Benth.

COMPOSITÆ, Tribe INULOÏDEÆ BUPHTHALMÆ.

**Ondetia**, Benth. gen. nov. *Capitula* heterogama, radiata, floribus radii fœmineis discique hermaphroditis fertilibus (v. internis sterilibus?). *Involucrum* subhemisphæricum v. depresso-globosum, bracteis pluriseriatis imbricatis appendicibus amplis laxis scariosis terminatis, intimis acutis, exterioribus gradatim brevioribus latisque. *Receptaculum* planum v. convexiusculum, paleis rigide scariosis acutis flores subtendentibus onustum. *Corolla* radii ligulatæ, lamina patente subdentata; disci regulares, tubo brevi, limbo longo cylindraceo rigidulo ad medium v. profundius 5-fido. *Antheræ* basi sagittatæ, auriculis longiusculis contiguis connatis, appendiculis planis ciliolatis caudatis. *Styli* florum disci rami longiusculi, lineari-

lanceolati, rigidi, obtusi, dorso hirtelli, inappendiculati. *Achenia* (immatura) teretia, pilosa; pappi paless subbiseriatæ inæquales, in setas breviter barbellatas desinentes.

**O. linearis, Benth. sp. unica.**

HAB. South Africa; at Elephantskloof in Dammarra Land, called 'Ondetu' by the Dammaras, and made into a perfume by them and by the Namaquas, *Chapman and Baines*.

*Herba* pilis minutis sparsis glanduloso-scabra, caulis e basi ut videtur perenni pluribus rigidulis ramosis angustissime alatis infrapedalibus. *Folia* linearia, acuta v. mucronulata, integerrima v. parce dentata, 1-2-pollicaria. *Capitula* terminalia, inter folia suprema cæteris paullo minora sessilia. *Involucrum* semipollicem diametro, id *Centauræa* cuiusdam simulans. *Bractæ* numerosæ, basi breviter appressæ imbricatæque, appendicibus latis scariosis medio fuscis margine pallidis, intimis mucronato-acutis, extimis obtusis. —G. BENTHAM.

PLATE 1113.

**LOPHOLÆNA PLATYPHYLLA, Benth.**

**COMPOSITÆ, Tribe SENECIONIDÆ.**

**L. platphylla, Benth. sp. nov.**; foliis amplis late obovatis in petiolum contractis, involucri bracteis exterioribus late foliaceo-decurrentibus, pedunculis monocephalidis.

HAB. South Africa; in the highlands of Natal and Zulu, 'the leaves resembling those of a cabbage,' *Gerrard and M'Ken*, n. 2023 (*Herb. Kew from Herb. Trin. Coll. Dublin*).

*Frutex* 6-8-pedalis, glaberrimus, glaucescens. *Folia* alterna, iis *Brassice* satisæ subsimilia, 4-6-pollicaria, carnosula (interdum latiora quam in icodepicta), in petiolum decurrentia. *Pedunculi* foliis breviores, bracteis decurrentibus alati. *Involucrum* late cylindraceum, semipollicare; bractæ interiores oblongo-lineares, erectæ, 1-seriatæ, æquales, primum subcohærentes, margine soluto subscariosæ; exteriores 2-3, ample foliaceæ, capitulum sub-superantes, basi angustatæ et in pedunculum decurrentes. *Flores* involucrum breviter superantes, structura omnino ei *L. Dregeana*, DC., conformes videntur.—G. BENTHAM.

Fig. 1. Bract of the involucre and floret. 2. Three of its stamens. 3. Summit of its style. 4. Seta of the pappus.

## PLATE 1114.

SENECIO RETORTUS, *Benth.*

COMPOSITÆ, Tribe SENEACIONIDÆ.

**S.** (§ PINIFOLII, Harv.) **retortus**, *Benth.*; fruticosa, glabra, foliis crebris parvis linearibus mucronatis recurvo-patentissimis, capitulis ad apices ramorum intra folia ultima sessilibus solitariis radiatis.—*Felicia retorta*, DC. Prod. v. 281. *Aster retortus*, Harv. Fl. Cap. iii. 77.

HAB. South Africa; Genadendal, on the descent from the great mountain of Baviaan's kloof, *Burchell*, n. 7393.

*Frutex* glaberrimus, ericoideus, ramis virgatis dense foliatis. *Folia* sparsa, conferta, a basi patente reflexa, coriacea, nitidula, marginibus revolutis, vix ultra 2 lin. longa, sessilia basique subdecurrentia, summa ad basin involucri parva, bracteas exteriores simulantia. *Involucri* bracteæ 1-seriatæ, angustæ, 3–4 lin. longæ. *Flores* radii ut videtur flavi, lamina patente circa 3 lin. longa. *Antheræ, stylus et achenia* omnino *Senecionis* nec *Asteris*.

By some singular mistake this plant was entered by De Candolle under *Felicia*, although he had observed the discrepancy in the achenes. He does not appear to have examined the styles. Burchell had entered it as a *Senecio*. Harvey saw no specimens, and could therefore only leave it where De Candolle had placed it.—G. BENTHAM.

## PLATE 1115.

LEUCOPHOLIS PHYLICOIDES, *Gardn.*

COMPOSITÆ, Tribe INULOIDÆ GNAPHALIÆ.

**L. phylicoides**, *Gardn.* in *Hook. Lond. Journ.* ii. 11; ramulis apicem versus breviter lanuginosis, foliis linearibus subtus cano-tomentosis, capitulis sub-10-floris.

HAB. Brazil; sphagnum bog near the summit of the Organ Mountains, *Gardner*, n. 5772, also *Glaziov*, n. 2854 and 3692.

*Fruter* bipedalis. *Rami* teretes, dichotomi, dense foliosi et lanuginosotomentosi. *Folia* confertissima, alterna, sessilia, oblonga, obtusa (v. mucrone calloso terminata), 3-5 lin. longa, 1-1½ lin. lata, deflexa, margine revoluta, supra glabra, subtus cano-tomentosa. *Capitula* sub-10-flora, homogama, ad apices ramorum in glomerulum subglobosum aggregata, subsessilia. *Involucrum* laxe imbricatum, bracteis pluriseriatis subæqualibus linear-lanceolatis acuminatis membranaceis (scariosis) glabris albidis. *Receptaculum* angustum, nudum. *Corolla* lilacinæ, glabre, tubulosæ, 1½ lin. longæ, regulariter 5-fidæ, lobis brevibus lanceolatis. *Filamenta* complanata, glabra. *Antheræ* vix exsertæ, basi bisetosæ, apice appendice lanceolata terminatæ. *Pollen* globosum, lave. *Stylus* glaber, basi bulbosus; rami breves, divaricati, truncati, hispidi. *Achænum* oblongum, dense villosum; pappus uniserialis, multisetosus, setis scabris corolla longioribus (Gardner, l. c.).

We have received from M. Glaziou the following second species of this interesting genus, also from the province of Rio de Janeiro, with n. 4841.

*L. latifolia*, Benth. sp. nov.; foliis lanceolatis subtus ramoque longe denseque niveo-lanatis, capitulis sub-4-floris. Habitus et folia reflexa *L. phyllicoidis*, sed lana multo longior copiosiorque, folia ½-1 poll. longa, 2-3 lin. lata, capitula minora paucifolia et involucra pallide brunnea, nec nivea.—G. BENTHAM.

## PLATE 1116.

### DESMANTHODIUM PERFOLIATUM, Benth.

COMPOSITÆ, Tribe HELIANTHOIDEÆ.

*Desmanthodium*, Benth. gen. nov. *Capitula* heterogama, discoidea, floribus foemineis 1-3 fertilibus, hermaphroditis paucis (4-6) sterilibus. *Involucrum* ovoideum, bracteis paucis (3-5) ovatis obtusis membranaceis, intumis (seu receptaculi paleis extimis) lageniformibus membranaceis a dorso compressis clausis, flores foemineos includentibus. *Receptaculum* parvum, planum, sub floribus hermaphroditis nudum v. hinc inde palea angusta instructum. *Corolla* florum foemineorum tenues, stylo breviores, in limbum brevissimum truncatum v. 2-3-dentatum patentem apice dilatatae; florum hermaphroditorum regulares, tubo brevi, limbo cylindraceo apice 5-fido hirsuto. *Antheræ* basi obtusæ. *Stylus* florum hermaphroditorum indivisus, hirtus. *Achænia* florum foemineorum bractea omnino inclusa, obovali-oblonga, a dorso plano-compressa, calva, glabra, corolla persistente apice e bractea

*exserta v. inclusa quasi rostrata.*—*Herbae elatae, glabrae v. scabro-puberulae.*  
*Folia opposita, subserrata. Capitula parva, in glomerulis capituliformibus*  
*pauca sessilia, glomerulis corymboso-paniculatis.*

**D. perfoliatum**, *Benth. sp. nov.*; foliis ovato-lanceolatis basi auriculato-dilatatis connatis, capitulorum glomerulis numerosis late corymboso-paniculatis.

HAB. Mexico; in the province of Oaxaca, at an elevation of 4500 feet, *Galeotti*, n. 2050.

*Herba* fide *Galeotti* perennis, erecta, elata, glaberrima v. ramis paniculæ linea decurrente pilorum pubescentibus. *Folia* inferiora desunt, superiora ovato-lanceolata acuminata parce serrata infra medium contracta, basi dilatata et auriculis latis connata, utrinque viridia, supra nitidula, 3-5 poll. longa, triplinervia, summa minora. *Capitulorum* glomeruli depresso-globosi, circa 3 lin. diametro, in panicula lata trichotoma numerosissimi. *Capitula* in glomerulo 6-10, 1½ lin. longa. *Flores* fœminei in capitulo 1-2, hermaphroditi steriles ad 4.

Fig. 1. Cluster of flowerheads. 2. Female floret enclosed in the bract. 3. Female floret without the bract. 4. Disk-floret. 5. One of its stamens. 6. Summit of its style.

The following second species of the genus is in Herb. Hook., the specimens not very good as to the flowers, but sufficient to show the same structure as in *D. perfoliatum*.

**D. ovatum**, *Benth. sp. nov.*; foliis breviter petiolatis late ovatis, capitulorum glomerulis paucis subcorymbosis.

HAB. Mexico: woods of the province of Oaxaca at an elevation of 7000 to 8000 feet, *Galeotti*, n. 2081; on the mountain San Felipe, *Andrieux*, n. 319.

*Herba* fide *Galeotti* annua, erecta, elata, parum ramosa, caule glabro. *Folia* late ovata, irregulariter serrato-crenata, 1½-3-pollicaria, basi in petiolum brevem ad caulem haud dilatatum contracta, 3-5-tuplinervia, supra pilis minutis sparsis scabra, subtus pallidiora glabra. *Capitulorum* glomeruli in speciminiibus 3, ad apicem pedunculi longi pedicellati, subglobosi, 3 lin. diametro. *Capitula* in glomerulo 6-8. *Involucri bracteæ* striatæ.—G. BENTHAM.

## PLATE 1117.

## AGANIPPEA BELLIDIFLORA, DC.

COMPOSITÆ, TRIBE HELIANTHOÏDÆ.

**A. bellidiflora**, DC. *Prod.* vi. 3; caule hirsuto, foliis longe lanceolatis  
parce dentatis subglabris.—*Heliogenes longifolia*, Benth. *Pl. Hartw.* 42.

HAB. Mexico, in marshes near the town, *Berlandier*; near *Regla*,  
*Hartweg*.

*Caules* e basi reptante radicanteque ascendentibus v. erecti, 1-1½-pedales,  
simplices v. ramosi, crassiusculi, pilis hyalinis laxe hirsuti. *Folia* opposita  
sessilia, longe lanceolata, integerrima v. remote dentata, basi latiora et cordato-  
amplexicaulia, 2-3-pollicaria, 3-7-nervia, glabra v. subtus ad nervos leviter  
pilosa. *Pedunculi* in axillis alterni, 1-cephali, foliis paullo longiores. *Involuci*  
hemisphaericæ bracteæ sub-7-seriate, subaequales, herbaceæ, in parte inferiore  
marginibus intus plicatis achænia radii arcte includentes, 3-4 lin. longæ.  
*Receptaculum* conicum, paleis membranaceis acutis complicatis flores disci  
amplectentibus onustum. *Corolla* radii ligulatae, lamina supra achæniū  
subsessili patente integra persistente; disci tubulosæ, limbo ampliato  
cylindraceo-campanulato apice 5-fido. *Antheræ* basi obtusæ. *Styli* florū  
disci rami elongati, lineares, obtusiusculi, exappendiculati. *Achænia* obovato-  
oblonga, calva, radii leviter a dorso compressa, disci subtetragona vacua  
(v. interdum forte perfecta ?).—G. BENTHAM.

Fig. 1. Involucre and receptacle, longitudinal section. 2. Ray-floret, with the bract  
of the involucre enclosing it at the base. 3. Summit of its style. 4. Disk-floret,  
with the subtending palea of the receptacle. 5. Three of its stamens.

## PLATE 1118.

## AXINIPHYLLUM CORYMBOSUM, Benth.

COMPOSITÆ, TRIBE HELIANTHOÏDÆ.

**A. iniphyllum**, Benth. gen. nov. *Capitula* homogama, discoidea, flori-  
bus omnibus hermaphroditis fertilibus. *Involucrum* campanulatum, bracteis  
sub-2-seriatis parum inæqualibus herbaceis glanduloso-hispidulis. *Recepta-  
culum* subplanum, paleis complicatis flores amplectentibus onustum. *Corolla*

tubo brevi, limbo elongato cylindraceo apice 5-fido. *Antheræ* basi auriculis brevibus obtusis sagittatæ. *Styli* rami elongati, hirtelli, in appendices acutas desinentes. *Achenia* 4-gona, leviter incurva, apice subtruncata, calva, disco epigyno parvo.—*Herbæ superne viscidulæ, scabro-pubescentes v. tomentosæ*. *Folia opposita, hastato-3-loba*. *Capitula ad apices ramorum pauca v. corymboso-paniculata*. *Achenia glabra*.

1. **A. corymbosum**, Benth. sp. nov.; foliis profunde 3-lobis, lobis ovatis sublobatis subtus inter venas hirsutas glabris, capitulis parvulis irregulariter corymbosis.

HAB. Mexico; woods in the province of Oaxaca, at an elevation of 7500 feet, Galeotti, n. 2089.

*Herba* ex Galeotti annua, erecta, parum ramosa, 1-2-pedalis, pilis brevibus rigidulis scabro-pubescentis, in panicula pube glandulosa intermixtis. *Folia* circumscriptione late deltoidea, subbipinnicaria, acuta, denticulata et profunde 3-loba, lobis ovato-deltoides basi saepè utrinque lobo parvo auctis, intermedio lateralibus duplo majore, supra scaberrima, petiolis 1½-2-pollicaribus alatis basi auriculatæ-dilatatis connatisque; folia superiora parva, distantia; in panicula bracteæformia, sessilia, oblongo-lanceolata. *Paniculæ* rami primarii elongati, ultimi v. pedunculi breves. *Involucri* bractæ 1-2-seriatæ, 2-2½ lin. longæ. *Corolle* ex Galeotti roseo-flavantes, involucrum subæquantes, extus hispidulæ. *Achenia* matura desunt.

Fig. 1. Floret with the subtending palea. 2. Three of its stamens. 3. Summit of the style.

The following is a second unpublished species of the genus:—

2. **A. tomentosum**, Benth. sp. nov.; foliis hastato-trilobis lobis late lanceolatis indivisis subtus dense tomentosis, capitulis majusculis paucis.

HAB. Mexico, Bates in Herb. Hook.

*Statura A. corybosi* et pariter superne glanduloso-pubescentis. *Folia* crassiora, brevius petiolata, lobis angustioribus haud divisis, supra scaberrima, subtus tomento denso canescens, petiolis ut in *A. coryboso* alatis basi connatis; summa indivisa, subsessilia, lanceolata, pollicaria. *Capitula* in specimine 2 tantum, quam in *A. coryboso* duplo majora. *Involucri* bractæ 4-7 lin. longæ, lineares, foliacæ, glanduloso-pubescentes et hispidæ. *Receptaculi* paleæ rigidæ, acutissimæ, rubentes, nitidæ.

The genus is in many respects allied to *Zaluzania* and *Sabazia*, but differs in habit and in the absence of any ray.—G. BENTHAM.

## PLATE 9111.

## CAMPTOSTEMON SCHULTZII, Mast.

MALVACEÆ, Suborder BOMBACEÆ.

**Campstostemon**, Mast. gen. nov. *Epicalyx* cupuliformis, margine irregulariter sinuosus, extus uti calyx petala ovariumque dense lepidotus. *Calyx* campanulatus, epicalyce duplo longior, initio ut videtur clausus, demum supra medium in lobos 3 ovatos obtusos divisus. *Petala* 5, imbricata, persistentia, demum patentia, oblonga, obtusa, intus concava, plurinervia, nisi ad basin libera. *Tubus stamineus* petalis parum brevior nisique ad basin conjunctim enatis angulatus, sulcato-striatus, ad apicem in filamenta 5 demum deflexa et ut videtur in phalanges 5 petalis oppositas disposita divisus. *Filamenta* tubo stamineo dimidio breviora, anguste liguliformia. *Antheræ* adnatæ, oblongæ, connectivo postice dilatato suborbiculari, bilocularis, loculis rectis vel obscure tortuosis, rima longitudinali extrorsum dehiscentibus. *Pollinis* granula globosa, muriculata. *Staminodia* nulla. *Ovarium* sessile, tubo stamineo inclusum, ovoideum, biloculare. *Ovula* in quovis loculo solitaria, hippocrepica, placente axili versus medium affixa. *Funiculus* brevissimus. *Stylus* columnaris, teres, tubo stamineo inclusus, ad apicem in ramos 2 stigmatiferos breves divisus. *Stigmata* majuscula, ultra os tubi staminei exserta, subtriloba, lobis ovatis carnosulis medio longiore. *Fructus* adhuc ignotus.

**C. Schultzii**, Mast. sp. unica.

Arbor vel frutex, *ramis* teretibus, *ramulis* angulatis glabris divaricatis. *Folia* circa 3 poll. longa, 10 lin. lata, alterna, petiolata, elliptica, obtusa, basi cuneata, 1-nervia, arcuato-venosa, coriacea, superne glabra nitida, subitus dense lepidota, squamis orbicularibus. *Petiolæ* 8-10 lin. longi, superne canaliculati, apice glanduloso-incrassati. *Inflorescentia* cymosa, cymis terminalibus ramosis folio brevioribus plurifloris, pedunculis divaricatis angulatis lepidotis, pedicellis articulatis floribus brevioribus. *Flos* longitudine 3-6 lin.; epicalyx diam. 3-4 lin.; calycis lobi 4 lin. longi; petala sepalis æquilonga; corolla expansa, 8-9 lin. diametro.

HAB. Port Darwin, North Australia, Schultz, n. 511.

In the scaly pubescence, foliage, cupular epicalyx and closed calyx, this plant is closely related to the *Durioneæ* and especially to *Neesia*, Blume. The decidedly 2-celled anthers of the present plant do not invalidate its association with the *Bombaceæ*, as *Neesia*, *Eriodendron*, and others have sometimes 2-celled anthers, and at best the character is a very artificial one,

seeing that in a young stage the anthers of *Malvaceæ* in general are bilocular. The relationship to *Myrodia* (*Sterculiaceæ*) is less marked. In any case the 2-celled ovary, paucity of ovules, and 3-lobed stigmas are peculiar.—  
M. T. MASTERS.

Fig. 1. Bud. 2. Staminal tube with adherent petals, laid open, exposing the pistil. 3. Anthers. 4. Calyx and longitudinal section of ovary. 5. Transverse section of ovary. 6. Peltate scale of ovary.

---

## PLATE 1120.

### CORYSANTHES CHEESEMANI, *Hook. f.*

#### ORCHIDÆ.

**C. Cheesemanii**, *Hook. f.*; folio sessili cordato-orbiculari apiculato, flore subsessili, pedunculo post anthesin elongato, ovario bractea spathacea vaginato, sepalo dorsali galeato obtuso, lateralibus setaceis minutis labello suppositis v. obsoletis, petalis lateralibus setaceis v. 0, labello tubuloso columnam amplexente, ore ampliato recurvo 2-lobo, lobis reflexis subintegris, marginibus basi utrinque in auriculam deflexam obtusam productis.

**HAB.** New Zealand, amongst bushes at Purewa, near Auckland,  
**F. F. Cheeseman, Esq.**

This curious little species was first brought to my notice in 1867 by F. F. Cheeseman, Esq., of Auckland, a very acute botanist, to whom I am indebted for several other interesting discoveries in the Northern Island, and notably the beautiful little *Hymenophyllum Cheesemanii* (Baker, mss.), of which a figure is prepared for this work.

*Corysanthes* was found at Purewa, about five miles from Auckland, flowering in June and July, in a dense bush, principally composed of *Myrsine Urvillei*, *Senecio Forsteri*, and *Leptospermum scoparium*, with a thick under-growth of various species of sedges.

Mr. Cheeseman describes the leaves as more membranous than those of any other species known to him, and the flower as dull purple with several greenish stripes and blotches on the surface of the upper sepal; he adds that the margins of the lip meet behind the column and enclose it, that the lateral sepals, when present, are very narrow-linear, placed under the lip and never exceed it, and that the petals, when present, are very minute indeed, subulate, deflexed, and placed under the basal tubes of the lip.

This description does not fully accord with my examination of several specimens, nor do either of them accord with Mr. Fitch's drawing, owing to the extreme difficulty of macerating the flower for the purpose of dissection. Mr. Cheeseman does not describe the curious ligulate, often twisted, process which proceeds in some specimens from the very base of the lip, at its medial line, and which I find to be sometimes replaced by two subulate processes; this is incorrectly represented in the accompanying Plate as a continuation of the base of the column. This must either be a process of the base of the lip, or consist of the two lateral sepals,—a view favoured by the fact of its being sometimes replaced by two subulate bodies. The subulate lateral petals I never found in all the specimens which I have examined.

The similarity of this species to Brown's Port Jackson *C. bicalcarata*, is so strong that I suspect that it may prove identical with it; I hesitate however to unite them without further materials, the dorsal sepal being much less arched in the New Zealand plant.

I regret to observe that it is proposed to replace Brown's generic name of *Corysanthes* by Salisbury's somewhat earlier one of *Corybas*, the totally erroneous description of which was (as was well known at the time) drawn up surreptitiously from an inspection of Bauer's figure of the Australian *Corysanthes bicalcarata*, when exhibited by Robert Brown at Sir Joseph Banks's rooms, with the latter name attached to it.—J. D. HOOKER.

Fig. 1. Flower. 2. The same with the dorsal sepal removed. 3. Column, petals, and lip:—all magnified.

## PLATE 1121.

### NORMANDIA NEO-CALEDONICA, *Hook. f.*

#### RUBIACEÆ.

**Normandia, *Hook. f. gen. nov.*** *Flores* hermaphroditi. *Calycis* tubus elongato-obconicus, 5-gonus; limbi lobi 5, subulati, patentes, persistentes. *Corolla* infundibularis, fauce glabra; limbi lobi 5, in fl. ♀ breves erecti, in fl. ♂ longiores patentes revoluti, valvati. *Stamina* 5, basi tubi corollæ inserta, filamentis in fl. ♀ brevibus inclusis, in fl. ♂ filiformibus exsertis; antheræ magnæ, dorso prope basin affixæ, lineari-ovovatæ, obtusæ, longe exsertæ, loculis basi liberis acutis. *Discus* minutus, annularis. *Ovarium* 2-loculare; styli rami 2, a basi discreti, filiformes, papilloso, demum longe exserti; ovula linearia, in loculis solitaria, e basi erecta, anatropa. *Fructus* 2-coccus, lobis calycinis cornutus, coccis intus medio longitudinaliter

dehiscentibus. *Semina* linearis-oblonga, a dorso compressa, albumine carnosos; embryo parvus, exilis, cotyledonibus orbiculatis, radicula tereti infera.—*Frutex* v. arbuscula, *ramulis striatis*. *Folia opposita*. *Stipulae utrinque solitariae, ovatae, acutae*. *Flores parvi, in corymbos terminales dispositi*.

**N. Neo-Caledonica, Hook. f.**

HAB. New Caledonia; on the mountains of Kanala, *Vieillard and Deplanche* (communicated by the late Dr. Le Normand, of Vire).

*Frutex* v. arbuscula, erectus, *ramulis acute 4-gonis, angulis subalatis*. *Folia* 1-1½ poll. longa, elliptico-ovata v. oblonga, subacuta, coriacea, enervia, superne siccitate fusca, subtus brunnea, marginibus incrassatis; petiolo ¼-½ poll. longo. *Stipulae* interpetiolares utrinque solitariae, triangulares, integræ v. fissæ, persistentes. *Flores* in corymbos terminales dichotome ramoës dispositi, breviter pedicellati, pedunculis angulatis, bracteolis minutis subulatis. *Corolla et capsula* ¼ poll. longæ. *Styli* primum exserti; stamina serius protrusa.

A very singular genus, evidently closely allied to *Coproisma*, though differing much in habit and the characters of the flower and fruit.  
—J. D. HOOKER.

Fig. 1. Flower. 2. Corolla laid open. 3 and 4. Stamens. 5. Vertical section of ovary. 6. Fruit. 7. Vertical section of carpel and young seed. 8. Ripe seed: —all magnified.

PLATE 1122.

**DIDYMOCHLAMYS WHITEI, Hook. f.**

RUBIACEÆ.

**Didymochlamys, Hook. f. gen. nov.** *Calyx* tubus turbinatus; limbi 5-partiti segmenta lanceolata, acuminata, tubum superantia. *Corolla* cylindrico-campenulata, tubo intus basi annulo pilorum instructo, fauce glaberrima; limbi brevis lobi 5, erecti, breviter ovato-triangulares, obtusi, dorso sub apice setulosi, valvati, marginibus latissime inflexis alæformibus. *Stamina* 5, basin versus corollæ annulo pilorum inserta, filamentis subulatis inæquilongis; antheræ majuscule, dorso basi affixæ, late oblongæ, apiculatæ, inclusæ. *Discus* conicus. *Ovarium* 2-loculare; stylus filiformis, stigmate clavellato 2-dentato ubique papilloso; ovula numerosa, placentis columnaribus e basi loculorum erectis dense conferta. *Fructus* . . . —*Herba prostrata, glaberrima*. *Folia alterna*!, *disticha*. *Stipulae lineares, dissitæ*.

*Flores ad apicem pedunculi terminalis intra bracteas 2 amplas oclusi, sessiles, bracteolati.*

**D. Whitei, Hook. f.**

HAB. New Granada ; in dense woods at Quibdo, on the river Atrato, an affluent of the Magdalena, growing on stumps of trees, *R. B. White, Esq.*

*Herba subsucculenta, 3-6-pollicaris, glaberrima, siccitate fragilis nigrescens, caule teretiusculo basi radicante. Folia disticha, ut videtur stricte alterna, sed verisimiliter dissita, subseassilia, oblongo-v. obovato-lanceolata, acuminata, basi anguste rotundata, glaberrima, carnosula, costa latiuscula nervisque arcuatis inconspicuus. Stipulae uti folia ut videtur dissitae, biformes ; aliae membranaceae, facie dorsali caulis prostrati sitae, lineari-lanceolatae, integræ v. 2-fidæ (v. 2-næ), petiolo remoto v. approximato ; aliae coriaceæ v. siccitate cornesæ, minutæ, unguiformes, sere axillares. Pedunculus  $\frac{1}{2}$ -pollicaris, ascendens. Bracteæ transverse ellipticæ, 1 poll. diam., apiculatae, venosæ ; bracteolæ lanceolatae, flores superantes. Flores  $\frac{1}{2}$  poll. longi, sessiles, errecti, cærulei.—J. D. HOOKER.*

Fig. 1. Portion of stem and leaf, and stipuliform bodies. 2. Stoma of the epidermis (drawn by Dr. M'Nab). 3. Flower and bracteole. 4. Corolla laid open. 5. Stamens (one omitted). 6. Vertical section of ovary :—*all magnified.*

PLATE 1123.

**CORYNULA PILOSA, Hook. f.**

RUBIACEÆ.

**Corynula, Hook. f. gen. nov.** *Calycis* tubus turbinatus ; limbus 5-partitus, lacinis subulato-lanceolatis inæqualibus persistentibus. *Corolla* anguste infundibularis, fauce glabra ; limbi lobi 5, breviusculi, errecti, obtusi, valvati. *Stamina* 5, fundo tubi corollæ inserta, filamentis filiformibus ; antheræ dorso basi affixæ, lineares, apiculatae, longe exsertæ. *Discus* depresso. *Ovarium* 2-loculare ; stylus brevis, ramis 2 longe exsertis filiformibus undique hirsutis ; ovula in loculis solitaria, e basi errecta, a dorso compressa, cuneata, anatropa. *Fructus* pyriformis, coriaceus, alte 5-costatus, tarde in coccos 2 1-spermis plano-convexos dehiscens. *Semina* errecta, obovoidea, a dorso compressa, testa brunnea subcoriacea granulata, albumine dense carnosæ ; embryo majusculus, cotyledonibus foliaceis cordatis, radicula tereti infera.—*Herba gracilis, repens, pilosa. Folia opposita. Stipule 3-5-lobe. Flores axillares, pedunculati.*

**C. pilosa**, *Hook. f.*—*Mitchella pilosa*, Benth. in Pl. Hartw. 194; Walp. Rep. vi. 49.

HAB. Peru; in shady woods at Minasbomba, near Quito, *Hartweg*; Pichincha, *Capt. Hall, Jameson*, where it forms great tufts on the ground at 11,000 feet (*Spruce*, n. 5505). Closely allied to *Nertera*, but differing in the dry 2-coccus fruit and inflorescence.—J. D. HOOKER.

Fig. 1. Portion of stem, leaf, and stipules. 2 and 3. Flowers. 4. Flower with corolla laid open. 5. Fruit. 6. Fruit, cut transversely. 7. Seed. 8. Vertical section of ditto:—*all magnified*.

---

## PLATE 1124.

### FERGUSONIA THWAITESII, *Hook. f.*

#### RUBIACEÆ.

**Fergusonia**, *Hook. f. gen. nov.* *Calycis* tubus obovideo-pyriformis; limbi lobi 4, æquales v. subæquales, erecti, ovato-lanceolati, ciliati, persistentes. *Corolla* infundibularis, fauce glabra; limbi lobi 4, breves, patentes, apice ciliati, valvati. *Stamina* 4, ore corollæ inter lobos inserta, filamentis breviusculis; antheræ dorso affixæ, lineari-oblongæ. *Discus* 4-lobus. *Ovarium* 4-loculare; stylus filiformis, ramis 2 linearibus hirsutis interdum connatis; ovula in loculis solitaria, e basi erecta, obovata, compressa, anatropa. *Fructus* 4-coccus, coccis subpyriformibus obscure 3-gonis, lobis calycinis coronatis coriaceis 1-spermis. *Semina* pyriformia, compressa, erecta, funiculo brevi rigidulo, testa membranacea, albumine dense carnosæ; embryo in basi seminis rectus, subcylindricus, cotyledonibus planis radicula tereti infera vix latioribus.—*Herba ramosa, bani radicans. Folia opposita. Stipulæ intrapetiolares, integræ, persistentes. Flores axillares, solitarii. Fructus parvus.*

**F. Zeylanica**, *Hook. f.*—*Borreria tetracocca*, Thwaites, Enum. Pl. Zeyl. 442; Beddome, Ic. Pl. Ind. Or. t. 39.

HAB. Ceylon, near Colombo, *W. Ferguson, Esq.*

*Herba* gracilis, 1-2-pedalis, habitu *Spermacocis*, caule 4-gono ramoso basi prostrato radicante, ramulis flexuosis adscendentibus nodis ciliatis. *Folia* 1-1½ poll. longa, opposita, brevissime petiolata, lanceolata v. ovato- v. elliptico-lanceolata, acuta v. acuminata, subchartacea, scaberula. *Stipulæ* lanceolatae, herbaceæ, erectæ, persistentes, utrinque cum petiolis connatae

*Flores*  $\frac{1}{2}$  poll. longi, in axillis foliorum solitarii, breviter pedicellati, bracteis 2 oppositis utrinque cum stipula conjunctis involucrati. *Fructus* parvus, tumidus.—J. D. HOOKER.

Fig. 1. Flower and bracts. 2. Corolla laid open. 3. Vertical section of ovary. 4. Fruit. 5. Coccus. 6. Seed. 7. Vertical section of ditto. 8. Embryo:—*all magnified*.

## PLATE 1125.

### CERATOPYXIS VERBENACEA, Hook. f.

#### RUBIACEÆ.

**Ceratopyxis**, Hook. f. gen. nov. *Calycis* tubus ovoideus; lobi 5, rigidi, erecti, subulato-lanceolati, persistentes. *Corolla* infundibularis, fauce glabra; limbi lobi 5, lineari-lanceolati, revoluti, valvati. *Stamina* 5, fundo tubi corollæ inserta, filamentis liberis complanatis puberulis; antheræ dorso prope basin affixa, exsertæ, lineari-elongatæ. *Discus* 4-lobus. *Ovarium* 2-loculare; stylus filiformis, stigmate clavellato apice 2-fido; ovula in loculis solitaria, ab apice pendula, elongata, cylindrica, funiculo incrassato. *Capsula* parva, subcoriacea, pubescens, fere orbicularis, a latere valde compressa, 2-locularis, septicide 2-valvis, valvis calycis lobis rigidis patentibus coronatis. *Semina* pendula, subreniformi-oblonga, a latere compressa, funiculo incrassato, testa tenuissima, albumine dense carnosæ; embryo parvus, teretiusculus, cotyledonibus brevibus ovatis, radicula longiuscula supera.—*Frutex resinifluus*. *Folia opposita*. *Stipulae intrapetiolares, in vaginam connatae*. *Flores parvi, in thyrsos terminales erectos densifloros dispositi*.

**C. verbenacea**, Hook. f.—*Rondeletia* ? *verbenacea*, Griseb. Cat. Pl. Cub. 130. *Phialanthus spicatus*, Sauvage, Pl. Cub. 71.

HAB. Western Cuba, *Wright*, n. 2695.

*Frutex* strictus, erectus, robustus, ramulis teretibus, nodis resinosis. *Folia* 2-3 poll. longa, elliptico-obovato-lanceolata, acuminata, breviter crasse petiolata, glaberrima, nervis numerosis gracilibus parallelis a costa valida divergentibus in unam intramarginalem confluentibus. *Stipulae* intrapetiolares, majusculæ, late ovatæ, cuspidatæ, coriacea, fuscae, persistentes, in vaginam annularem demum solutam connatae. *Flores*  $\frac{1}{2}$  poll. longi, in thyrsos axillares et terminales cylindricos erectos obtusos densifloros dispositi, pedunculo valido, inferne sepe stipulis vaginato. *Capsulae*  $\frac{1}{2}$  poll. longæ, pubescentes.—J. D. HOOKER.

Fig. 1. Flower. 2. Stamen. 3. Anther. 4. Vertical section of ovary. 5. Capsule. 6. Seed. 7. Vertical section of ditto:—*all magnified*.

## PLATE 1126.

AULACOCALYX JASMINIFLORA, *Hook. f.*

RUBIACEÆ, Tribe ALBERTÆ.

*Aulacocalyx*, *Hook. f.* in *Benth. and Hook. f. Gen. Pl.* ii., 109.HAB.—Western tropical Africa; Mount John River, Kongui, Lat. 1° N., *G. Mann.*, Sept. 1862.

*Frutex* 15-pedalis, ramosus, ramis teretibus, ramulis et inflorescentia sericeis. *Folia* opposita, breviter petiolata, 3-4 poll. longa, elliptica v. elliptico-lanceolata, caudato-acuminata, basi in petiolum vix  $\frac{1}{2}$  poll. longum angustata, vix coriacea, utrinque costa puberula excepta glaberrima, nervis paucis tenuibus obliquis, nervulis transversis crebris parallelis tenuissimis. *Stipulae* intrapetiolares, subulato-lanceolatae, rigidæ, sericeæ, deciduæ. *Flores* in pedunculos breves axillares fasciculati, sessiles, bracteati; bracteis ovato-subulatis, calycis tubum æquantibus. *Calyx*  $\frac{1}{2}$ -pollicaris, elongatus; tubus brevis, obovoideus, profundus 5-sulcatus; limbus tubulosus, extus et intus sericeus, 5-fidus, lacinias elongatis subulato-lanceolatis erectis rigidis. *Corolla* infundibularis, extus sericea, tubo pollicari gracili intus basin versus pubescente, fauce glabra; limbi 1-poll. diametro lobi 5, patentes, linearis-oblongi, subacute, stricte contorti, extus sericei. *Stamina* 5, fauci corollæ inserta; antheræ sessiles, dorso affixa, anguste linearis-elongatae, recurvæ, apiculatae,  $\frac{1}{2}$ -exsertæ. *Discus* depresso. *Ovarium* 2-loculare; stylus gracilis, exsertus, supra medium incrassatus, ramis 2 brevibus v. elongatis recurvis; ovula in loculis solitaria, septo infra apicem affixa, pendula, raphe ut videtur ventrali. *Fructus* ignotus.

*Aulacocalyx* belongs to a small group of *Rubiaceæ*, distinguished by the contorted corolla and 2-celled ovary with solitary pendulous ovules, having a superior micropyle, all of which hitherto discovered are tropical African; but it appears to differ from the rest of this group in the ventral position of the raphe; if, indeed, I am right in this, a difficult point to discover in living one-ovuled *Rubiaceæ*, and much more so in dried specimens of them. Be this as it may, it certainly belongs to no other section, and resembles *Oremaspora* in too many points to be removed far from that genus. The fruit is unfortunately unknown.—J. D. HOOKER.

Fig. 1. Calyx, style, and bracteoles; 2. Vertical section of calyx and ovary; 3. Corolla-lobe and stamens:—all magnified.

## PLATE 1127.

## BELONOPHORA COFFEOIDES, Hook. f.

## RUBIACEÆ, Tribe ALBERTÆA.

*Belonophora*, Hook. f. in Benth. and Hook. f. Gen. Pl. ii. 109.

HAB. West coast of Africa; Isle of St. Thomas, alt. 3000 ft., G. Mann., 1860.

*Arbor* 40-pedalis, floribus exceptis glaberrima; ramulis gracilibus teretibus, cortice pallido, ultimis compressis. *Folia* 5-8-poll. longa, opposita, breviter petiolata, elliptico-v. obovato-lanceolata, obtusa, caudato-acuminata, in petiolum angustata, vix coriacea, exsiccata sordide-viridia, costa nervisque paucis divergentibus tenuibus, nervulis reticulatis tenuissimis; petiolo  $\frac{1}{2}$  poll. longo. *Stipulae* pollicares, intrapetiolares, e basi subulato-lanceolata longissimæ tenuissime productæ, chartaceaæ, striatæ, deciduae. *Flores* axillares, sessiles, fasciculati. *Calyx* parvus, 4-bracteolatus; tubus obconicus; limbus 4-5 fidus, lobis subequalibus obtusis ciliolatis, persistens. *Corolla* hypocrateriforma  $\frac{1}{2}$ -pollicaris, tubo cylindraceo sericeo, fauce glaberrima; limbi  $\frac{1}{2}$ - $\frac{1}{2}$  poll. diam. lobii 5, lineares, oblongi, obtusi, patentes, stricte contorti. *Stamina* 5, tubo corollæ inserta; antheræ sessiles, dorso medio affixaæ, lineares, subulato-acuminatae, inclusæ. *Discus* tumidus. *Ovarium* 2-loculare; stylus brevis, ramis 2 subulatis suberectis papillosis; ovula in loculis solitaria, ab apice pendula, anatropa. *Fructus* globosus, coriaceus, 2-locularis, loculis 1-spermis, septo tenui. *Semina* pseudula, ovoidea, hilo apicem versus ventrali minuto, testa firma, albumine corneo; embryo minutus, curvus, apicem versus seminis inversus, cotyledonibus parvis cordatis, radicula tereti obtusa hilo proxima.

This and the following genus belong to a small West African tribe of Albertææ; it resembles *Coffea* in habit, but differs in the position and direction of the ovule, in the glandular calyx, and in the albumen not being furrowed in front.—J. D. HOOKER.

Fig. 1. Flower; 2. The same with the corolla laid open; 3. Stamen; 4. Style and vertical section of ovary; 5. Ovule; 6. Fruit; 7. vertical and 8 transverse section of ditto; 9, 10 and 11. dorsal lateral and ventral views of seed; 12. vertical section of the same; 13. Embryo:—all but 6-11 magnified.

## PLATE 1128.

HOMALOCLADOS COLORATA; *Hook, f.*

RUBIACEÆ. Tribe COUSSAREÆ.

Genus **Homaloclados**, *Hook. f. in Benth. and Hook. f. Gen. Pl. ii. 122.*  
*H. colorata, Hf. l.c. Faramea colorata, Benth. in Linnaea xxiii., 452.*

HAB. Rio de Janeiro; in virgin woods, *Tweedie, Gardner, Sello, Glasior*, etc.

*Frutex* 6-pedalis, glaberrimus, sempervirens, 2-chotome ramosis, ramis saepe supra-alaribus, divaricatis, ramulis compressis v. angulatis, cortice pallido. *Folia* 2-3½-poll. longa, breviter petiolata, elliptico-ovata v. obovata, acuta obtusa v. obtuse-subcaudata, coriacea, pallide viridia, subtus pallidiora, marginibus undulatis, nervis numerosis patentibus tenuibus; petiolo ½-1 poll. longo. *Stipulae* intra-petiolares, latæ, coriaceæ, carinatæ, carina in mucronem rigidum acicularem pungentem excurrente. *Cymæ* terminales, umbelliformes, erectæ, 3-5-flores; pedunculo ½-pollicari, compresso; pedicellis pedunculo æquilongis compressis. *Calyx* ½-1 poll. longus, coloratus; tubus brevis, turbinatus; limbus magnus, infundibularis v. campanulatus, membranaceus, reticulatus, ore ampliato ½-poll. diametro, 4-6 fido, lobis obtusis, persistens. *Corolla* elongata, hypocraterimorpha, tubo cylindraceo calyce longior, fance glaberrima; limbi ½-poll. diametro lobi 4, lati, patentes, valvati. *Stamina* 4, basin versus tubi corollæ inserta, filamentis brevibus; antheræ dorso supra basin affixaæ, lineares, inclusæ. *Discus* elevatus. *Ovarium* 1-loculare; stylus filiformis, ramis brevibus v. linearibus pubescentibus; ovula in loculi basi gemina, erecta, sessilia, obovoidea. *Fructus* globosus, pisiformis, ½-poll. diam., calycis limbo persistente indurato coronatus, coriaceus, viridis, 1-spermus. *Semen* globosum, cavum, basi pericarpii adnatum, foramine magno infero, testa inconspicua, albumine carneo; embryo minutus, lateralis.

When described in the Genera Plantarum, the fruit of this genus was unknown. It has since been received from M. Glaziou, and proves to be identical with that of *Faramea*, and is similarly deeply excavated at the hilum; to such an extent, indeed, that the albumen forms a hollow sphere with a large basal circular aperture.

*Homaloclados* contains but two known species, both Brazilian, and agreeing remarkably in habit. It belongs to the small tribe of *Coussareæ*, which differs from *Psychotriæ* in habit, in the ovary being 1-celled, or if 2-celled with the septum evanescent, in the amphitropous basilar ovules inserted very close together, and in the 1-seeded fruit.—J. D. HOOKER.

Fig. 1. Flower; 2. the same with the corolla removed and laid open; 3 and 4. Stamens; 5. Style and vertical section of ovary:—all magnified.

## PLATE 1129.

## PSILANTHUS MANNII, Hook, f.

RUBIACEÆ, Tribe IXOREÆ.

*Psilanthes*, Hook. in Benth. and Hook f. Gen. Pl. ii. 115.

HAB. Fernando Po; on the beach, G. Mann (1860).

*Frutex* glaberimus, 10-pedalis, ramulis gracilibus teretibus, ultimis compressis, cortice lavi brunneo. *Folia* opposita, 5–7 poll. longa, breviter petiolata, elliptico-oblonga, obtuse caudato-acuminata, vix coriacea, pallide viridia, costa tenui, nervis paucis arcuatis, nervulis remotis; petiolo  $\frac{1}{2}$ – $\frac{1}{3}$  poll. longo. *Stipulae* parvæ, intrapetiolares, triangulares, acutæ. *Flores* majusculi, axillares, solitarii v. pauci, albi, pedunculo minuto tumido ebracteato sessiles. *Calyx* minutus, tubo brevi obconico; dentes 5, minuti, triangulares, in fructu foliaceo-dilatati. *Corolla* alba, tubo gracillimo 2–3½ pollicari, fauce nuda; limbi 2–3 poll. diametro lobi oblongi, subacuti, membranacei, stricte contorti. *Stamina* 5, ore corollæ inserta; antheræ sessiles, dorso affixæ, lineares, apice unguiculatæ,  $\frac{1}{2}$ -exsertæ. *Discus* tumidus, *Ovarium* 2-loculare; stylus filiformis, ramis 2 brevibus linearibus obtusis; ovula in loculis solitaria, septo medio late adnata, amphitropa. *Fructus* obovoideus, vertice late umbonatus, lobis calycis subfoliaceis corouatus, endocarpio tenuiter crustaceo. *Semina* oblonga, umbilico ventrali.

A very singular plant, especially in respect of the development of the flower. In an early stage the calyx, which is always very minute, is found seated on a tumid subglobose annulus or peduncle in the thickened node, at the leaf axil; the nature of this ring I cannot discover from the dried specimens, but it probably consists of a floral pedicel with confluent bracteoles. The ovary and calyx never exceed the twelfth of an inch long. The corolla appears as a cylindric body, somewhat dilated in the middle, when dry coated with a gummy secretion, and is not more than  $\frac{1}{4}$  of an inch long at the time when the calyx and ovary are fully formed; after this its tube rapidly elongates to nearly four inches, and the lobes at the same time expand. There are no specimens in a state between that of the fully formed flower and of the fully formed fruit in which the minute calyx-teeth that crown the ovary are developed into green coriaceous lanceolate lobes half an inch long.

The fruit contains no seed, but I have little doubt that the plant is correctly referred to the tribe *Ixoreæ*; from the solitary ovules, broadly adnate to about the middle of the septum, with the micropyle (I think certainly) downwards. As a genus is it evidently clearly allied both in habit and characters to *Coffea*, differing in the accrescent eglandular caylx, and in the structure of the fruit, which is crustaceous and 2-celled, not drupaceous with 2 pyrenes. I do not, however, place much dependence on this last point, for though fully formed, being seedless, the fruits of *Psilanthes* may be abnormally developed.

Fig. 1. Ovary, calyx, bracts and style; 2 and 3. Stamens; 4. Vertical section of ovary:—  
all magnified.

## PLATE 1130.

## HUALANIA COLLETIOIDES, Ph.

## POLYGALACEÆ.

**H. colletioides**, *Phillipi in Linnaea* xxxiii. (1864.) p. 19.

*Frutex* aphyllus, glaberrimus, spinosus, spinis crassis alternis patentibus; floribus in basi spinarum glomeratis, breviter pedunculatis, albidis.

HAB. Prov. Mendoza, *Dias*; Copiapo, *R. Pearce*! arid shingly plain near Jachal, Argentine Republic, *Dr. Jameson*!

*Spinæ*  $\frac{1}{2}$  poll. longæ, lœte virides. *Flores* numerosæ e tuberculo earum basali prorumpunt et limbo brevissimo squamuoso circumdantur; pedunculi ad summum 1 lin. longi. *Calyx* parum brevior; foliola ejus ovata, apice rotundata fere coriacea, margine albidō scarioso. *Carina* 2 lin. longa, e lutescente albida; petala lateralia  $1\frac{1}{2}$  lin. longa angusta oblonga centro puncto violaceo notata. *Fructus* immaturus (?) viridis, 8-lin. longus,  $1\frac{1}{2}$ -lin. crassus, basi longe attenuatus. *Semina* cum pilis albis sericeo-micantia, 5 lin. longa. (*Description from Phillipi, l.c.*)—D. OLIVER.

Fig. 1. Flower, side view; 2. Petals and staminal sheath; 3. Same laid open; 4. Anther; 5. Pistil with, and 6 without, calyx; 7. Young fruit.

## PLATE 1131.

## HYMENOCARDIA ULMOIDES, Oliv.

## EUPHORBIACEÆ.

**H. ulmoides**, *Oliv.*; fructibus late obovato-rotundatis emarginatis basi obtusis v. late cuneatis, margine utrinque a basi ad apicem latiuscule alatis, loculis centro fructuum dimidiam longitudinem latitudinemque occupantibus.

HAB. Dar Salam, Zanzibar, *Dr. Kirk*! Angola, *Dr. Welwitsch*!

*Ramuli* graciles, glabri, v. primum pubescentes. *Folia* oblongo-vel ovato-elliptica leviter obtusiuscule acuminata, glabra vel glabrescentia, 1- $1\frac{1}{2}$  poll. longa,  $\frac{1}{2}$ - $\frac{1}{3}$  poll. lata; petiolus gracilis  $\frac{1}{2}$  poll. longus. *Spica* masc.  $\frac{1}{2}$ - $\frac{1}{3}$  poll. longæ, saepius in paniculas distichas parvas dispositæ. *Flores*  $\frac{1}{12}$  poll. diam. *Fructus*  $\frac{1}{2}$ - $\frac{1}{3}$  poll. longi et lati; gynophorus  $\frac{1}{6}$ - $\frac{1}{4}$  poll. longus; pedicelli fructiferi filiformes, rigidi,  $\frac{1}{4}$ - $\frac{1}{3}$  poll. longi.—. D. OLIVER.

Fig. 1. Branch with male flowers; 2. Male flower with bract; 3. Same laid open; 4. Anthers; 5. Branch with pistillate flowers (collected by Dr. Welwitsch); 6. Pistillate flower; 7. Ovary; 8. Branch bearing fruit:—nat. size.

## PLATE 1132.

**HYMENOPHYLLUM (LEPTOCIONIUM) CHEESE-  
MANNI, Baker.**

## FILICES, Tribe HYMENOPHYLLÆ.

**H. Cheesemanni**, Baker n. sp.; rhizomate nudo filiformi, stipitibus brevissimis filiformibus nudis, frondibus minimis dichotome furcatis vel palmatim 3-4-fidis raro simplicibus, lobis ligulatis obtusis ciliato-dentatis, venis in segmentis solitariis centralibus, soris solitariis terminalibus, involucri valvis rotundatis integris basi solum immersis.

HAB. New Zealand; Titiranga range, at an elevation of 1200 feet, discovered by Mr. T. F. Cheesemann in 1871.

*Rhizomata* late vagantia intricata. *Stipites* segregati, erecti, 3-6 lin. longi, glabri, haud paleacei. *Lamina* viridis, membranacea, glabra, mox brunnescens, 3-6 lin. longa, basi in stipitem angustata, lobis 3-5 lin. latis ligulatis simplicibus, lateralibus erecto-patentibus. *Dentes* marginales lineari-subulate, ascendentibus, demum caduce, cellulari magnæ irregulariter hexagonæ marginales reliquis conformæ, parenchymatosæ. *Involucrum* vix lineam longum, semper ad apicem frondis vel segmentorum solitarium, terminale, valvis duris brunneis integerrimis lineato-marginatis dorso nudis lœvibus.

A very distinct novelty, nearest *H. minimum*, A Rich, 'Voy. Astrolabe,' t. 14, fig. 2; but differing essentially in the involucre, and in the cutting of the frond, in which it much resembles some of the forms of *Trichomanes digitatum*. —J. G. BAKER.

Fig. 1. Lobe of frond with involucre. 2. Valve of involucre removed, exposing the sporangia; 3. Sporangia.

## PLATE 1133.

**BOTHRIOCLINE SCHIMPERI, Oliv. et Hiern.**

## COMPOSITÆ, Tribe VERNONIACEÆ.

**Bothriocline**, Oliv. gen. nov. *Capitula* homogama, tubuliflora. *Involucrum* campanulatum, bracteis  $\infty$ -seriatis imbricatis tenuiter herbaceis scarioso-marginatis v. interioribus siccis, exterioribus gradatim minoribus. *Receptaculum* planum v. convexum, alveolatum. *Corollæ* æquales, regulares, tubo tenui, limbo anguste 5-fido. *Antheræ* basi sagittatæ, auriculis obtusis. *Styli* rami subulati, hirtelli. *Achenia* (immatura) obovoidea v. turbinata, 5-4-costata, apice rotundata. *Pappi* setæ paucæ, scabriæ, caducissimæ. —Herba foliis oppositis verticillatis. *Capitula* corymbosa. *Corollæ* purpureæ?

**B. Schimperi**, Oliv. et Hiern. *Fl. Trop. Afr.* iii. ined., species unica.

HAB. Abyssinia, Schimper, coll. 1863-8, n. 1497. There is also a variety gathered on Mount Kilimanjaro by the Rev. C. New, differing in the more tomentose stem and under side of the leaves.

*Herba* erecta, valida, pluripedalis, superne ramosa, glabra v. superne tomento-pubescentia. *Folia* pleraque 3-4-natim verticillata, ramealia interdum opposita, ovato-lanceolata v. lanceolata, acuta, serrata, basi rotundata, 3-6-pollicaria, supra glabra subitus sparse pilosula; petiolis brevissimis ciliatis linea pilosa connexis. *Capitula* vix semipollicem diametro, in corymbo terminali lato numerosa, conferta, pedunculis brevibus. *Involucri* squamæ ele-  
ganter scarioso-marginatæ, interiores acutæ, intimæ linearis-oblongæ undique scariosæ. *Corolla* vix involucrum excedentes, leviter glandulosæ.

This genus is allied to *Centratherum*, of which it has the pappus, but the involucre is different, and the opposite or verticillate leaves are quite exceptional in the tribe.—G. BENTHAM.

Fig. 1. Involucre and receptacle, longitudinal section; 2. Floret; 3. Three of its stamens; 4. Summit of its style; 5. Bristle of the pappus.

## PLATE 1134.

**HETEROPHYLLÆA PUSTULATA**, Hook. f.

RUBIACEÆ, Tribe CINCHONEÆ?

**Heterophyllæa**, Hook. f. in Benth and Hook. f. *Gen. Pl.* ii. 37.

HAB. Juguy Mountains in the northern district of La Plata, on the confines of Bolivia, R. Pearce. *Fl. Feb.* 1864.

*Frutex* 4-6-pedalis, sempervirens, gracilis, glaberrimus, ramis gracili-  
bus teretibus, cortice pallido crebre pustulata, pustulis apice depressis. *Folia* opposita, 2-3-poll. longa, breviter petiolata, lanceolata, acuminate, crenata, sinus faciebusque pustulatis, coriacea, exsiccata superne fusca, nervis obscuris, subitus pallidiora costa crassiuscula, nervis obliquis, nervulis laxe reticulatis; petiolo vix 1<sup>o</sup> poll. longo. *Stipulae* interpetiolares, triangulares, acutæ v. apice 2-dentatæ, diu persistentes. *Flores* in cymas axillares pustulatas paucifloras dispositi, odori, albi; pedunculo brevi nutanti, pedicellis alterni 1<sup>o</sup>-pollicaribus basi bracteolatis, bracteolis linearis-subulatis, elongatis, deciduis. *Calyx* tubus 1<sup>o</sup>-poll. longus, obovoideus; limbi lobi 4-5, subulato-lanceolati, tubo longiores, erecti, extus pustulati. *Corolla* tubus 2<sup>1</sup>/<sub>2</sub>-3-poll. longus, lente curvus, fauce vix ampliata intus villosa; limbi lobi 4 v. 5, breves, ovato-lanceolati, subacutæ, patentæ, valvati, *Stamina* 5, ima fauci corollæ inserta; antheræ subsessiles dorso affixæ, linearis-oblongæ,

utrinque obtusa, inclusa. *Discus* hemisphaericus. *Ovarium* 2-loculare; *stylus* filiformis, *ramis* 3 filiformi-subulatis patentibus semi-exsertis undique pubescentibus; *ovula* in loculis perplurima, placentis tumidis septo adnatis undique peltatum affixa. *Fructus* ignotus.

The pustules, which extend over the stem, leaves, peduncles, pedicels, calyx, and stipules of this plant, are unique in the Order, and resemble those of *Ruta* in external appearance; and together with the strongly crenate leaves and alternate pedicels, combine to render this one of the most anomalous of *Rubiaceæ*. Nevertheless, from the structure of the stem, style-arms, anthers and ovary, I have little hesitation in placing it in the tribe *Cinchoneæ*, and near to *Bouvardia* and *Manettia*, differing from the latter in the insertion of the placentas. The crenation of the leaves, the margins of which are slightly thickened and furnished with a pustular gland at every sinus is very remarkable, and quite unlike the toothing of *Carlemannia*, or *Sylvianthus* (Plate 1048), or of *Neurocalyx*.

I have seen but one specimen of this plant, which was discovered by Mr. Pearce, a very intelligent collector for Messrs. Veitch, who formed an excellent herbarium in North La Plata, and other parts of South America, that had not previously been visited by any naturalist.

Fig. 1. Portion of leaf. 2. Peduncle and flower-bud. 3. Upper part of corolla laid open. 4. Vertical section of ovary, with style. 5. Ovule:—all magnified.

## PLATE 1135.

### SPHACOPHYLLUM BOJERI, Benth.

#### COMPOSITÆ, Tribe INULOIDEÆ BUPHTHALMEÆ.

**Sphacophyllum**, Benth. gen. nov. *Capitula* heterogama, radiata, floribus radii foemineis 1-seriatis discisque hermaphroditis fertilibus. *Involucrum* late campanulatum, bracteis pauciseriatis angustis acutis, exterioribus brevioribus. *Receptaculum* convexiusculum, paleis complicatis rigidulis flores disci amplectentibus deciduis onustum. *Corolla* foemineæ ligulata, lamina patente subintegra; hermaphroditæ regulares, tubulosæ, limbo anguste campanulato semi-5-fido. *Antheræ* basi caudis longis tenuibus simplicibus appendiculatæ. *Staminodia* in floribus foemineis plus minus evoluta. *Styli* florum hermaphroditorum rami lineares, subcomplanati, apice rotundati. *Achania* angusta, 5-costata, callo basilari majusculo. *Pappus* brevissime cupulatus, denticulatus.—Suffrutex brevissime pubescens, foliis alternis. Capitula parva, terminalia, r. in axillis superioribus pedunculata. Corollæ 4avæ.

**S. madagascariense**, Benth. *single species.* *Epallage salvifolia*, D.C. Prod. vi. 3.

HAB. Madagascar. Dry stony places round Mananzary in the province of Emirna, Bojer.

*Caulis* basi lignosi, ramis tenuibus superne pubescentibus et minute glandulosis. *Folia* ovato-lanceolata v. oblongo-elliptica, obtusa v. mucronato-acuta, integerrima v. minute undulato-dentata, 1-1½-pollicaria, basi in petiolum 1-2 lin. longum contracta, pennivenia et tenuiter reticulato-rugosa, utrinque subtus præsertim minute glanduloso-puberula. *Capitula* 3-4-lin. diametro, pedunculis tenuibus 1-1½-pollicaribus fulta, sœpius 3-5 ad apices ramorum, quorum inferiora ad axillas foliorum superiorum.

Fig. 1. Receptacle, involucre, and paleæ, longitudinal section. 2. Floret of the ray. 3. One of its staminodia. 4. Summit of its style. 5. Floret of the disk and subtending palea. 6. Three of its stamens, the anther-tails not represented sufficiently fine. 7. Summit of its style.

This plant was included by De Candolle in his genus *Epallage* from the same country. The true typical species of that genus have, however, a very different habit, no tails to the anthers, and the ribs of the achenes terminating in small aristæ alternating with distinct scales of the pappus, which places them among the Helianthoideæ, whilst *Sphacophyllum* appears to me to be a genuine Buphthalmea.—G. BENTHAM.

---

## PLATE 1136.

### COLEOCOMA CENTAUREA, F. Muell.

COMPOSITE, Tribe INULOIDEÆ PLUCHEINÆ.

**C. centaurea**, F. Muell. in Hook. *Kew Journ.* ix. 19; Benth. *Fl. Austral.* iii. 533.

HAB. Tropical Australia; Sturt's Creek, F. Mueller.

*Caulis* humiles, duri, erecti, rigidi, glabri, basi sublignosi quamvis forte annui. *Folia* alterna, subsessilia, linearia v. lineari-lanceolata, acuta, dentibus paucis parvis acutis notata, basi contracta, superiora interdum breviter decurrentia, vix pollicaria, summa sœpe 2-3 sub capitulo conferta. *Capitula* inter folia ultima ad apices ramorum v. in dichotomiis sessilia. *Involucrum* ovoideum, 4-5 lin. longum, bracteis latis coriaceis appressis, apice scarioso-marginatis mucronulatis, more *Centaureæ* subappendiculatis. *Corollæ* vix exsertæ, femineæ 2-3-seriatæ tenues, hermaphroditæ plures, steriles. *Pappi* paleæ 1-seriatæ, florum fertilium alte connatæ, florum sterilium fere liberae.

Fig. 1. Involucre and receptacle, longitudinal section. 2. Female floret. 3. Summit of its style. 4. Hermaphrodite sterile floret. 5. Three of its stamens. 6. Summit of its style represented as divided, but the branches usually cohere to the end. 7. Achene of the female florets with its pappus.

The genus is closely allied to *Pterigeron* from the same country, differing chiefly in the pappus and in the habit which is not unlike that of some European *Centauræ* or South African *Geigeria* or *Gymnarrhena*.—G. BENTHAM.

## PLATE 1137.

### CHILIOCEPHALUM SCHIMPERI, Benth.

COMPOSITES, Tribe INULOIDEÆ GNAPHALIEÆ.

**Chiliocephalum**, Benth. gen. nov. *Capitula* heterogama, disciformia, floribus in ambitu scmineis fertilibus plurimis, in disco hermaphroditis perpaucis (1-2) pariter fertilibus. *Involucrum* oblongum, bracteis paucis imbricatis hyalino-scariosis appressis, exterioribus breviribus dorso sublanatis. *Receptaculum* parvum, nudum. *Corolla* omnes tubulosa, femineæ tubo filiformi, limbo parvo campanulato 3-5-fido; hermaphrodite tubo brevi, limbo elongato angusto apice 5-fido. *Anthere* basi sagittata, auriculis caudis brevibus subramosis appendiculatis. *Styli* florum hermaphroditorum rami subteretes, apice truncati. *Achenia* anguste oblonga; pappus 0.—Herba, erecta cano-tomentosa, habitu Achyroclinis. *Folia alterna, integra*. *Capitula minima, dense conferta, corymbosa*.

#### C. Schimperi, Benth. single species.

HAB. Abyssinia; banks of elevated mountain streams in Saman, Schimper.

*Caules* e basi dura (an perenni?) erecti, subsimplices, 1-2-pedales, laxe cano-tomentosi v. sublanati. *Folia* sessilia v. anguste decurrentia, lanceolata v. anguste oblonga, acuta v. obtusa, integerrima, sepe undulata, supra tenuiter tomentosa v. demum glabrata, subtus cano-tomentosa, majora 1-2-pollicaria. *Capitula* vix lineam longa, innumera, densissime cymosa, cymis  $\frac{1}{2}$ - $\frac{1}{3}$  poll. diametro plurimis interdum numerosis in corymbum densum 2-4-poll. diametro confertis. *Involucra* canescentia.—G. BENTHAM.

Fig. 1. Flower-head much magnified. 2. Involucre and receptacle, longitudinal section. 3. Female floret. 4. Summit of its style, the branches represented too thick and too much truncate. 5. Hermaphrodite floret. 6. Three of its stamens, not sufficiently tailed. 7. Style.

## PLATE 1138.

## DENEKIA CAPENSIS, Thunb.

COMPOSITA, Tribe INULOIDEA PLUCHEINAE.

**D. capensis**, Thunb.; DC. Prod. v. 462, foliis subtus albo-tomentosis.

HAB. S. Africa, apparently common in the eastern districts of the Cape Colony, extending to the highlands of the Batoka country within the tropics.

*Caules* e basi annua v. perenni, numerosi, decumbentes v. ascendentes, plerique infra 6 poll., v. in speciminiibus vegetioribus erectiores subpedales, tenues, glabri v. tomento deciduo vestiti. *Folia* oblongo-linearia, sessilia, amplexicaulia, acuta, margine saepius undulata interdumque sinuato-dentata, 1-3 poll. rarius 4 poll. longa, supra glabra v. laxe tomentosa, subtus tomento appresso incana; inferiora v. radicalia saepe subspathulata obtusa in petiolum contracta. *Capitula* vix 3 lin. diametro, in glomerulos v. cymas parvos plus minus pedunculatos terminales disposita, foliis floralibus superioribusque vulgo diminutis. *Flores* albi, foeminei in capitulo numerosi, centrales hermaphroditi sterilesque multo pauciores, achenis vacuis seta unica apice plumosa coronatis.

Fig. 1. Involucre and receptacle. 2. Female floret. 3. Summit of its style, the branches represented much too thick. 4. Hermaphrodite floret. 5. Three of its stamens, the very fine tails to the anthers not clearly represented. 6. Summit of its style. 7. Seta forming the pappus.

Besides this species, the genus comprises a second one described with the leaves green on both sides; and in Burchell's collection are some small specimens, with the name of *D. carulea*, with the note that the central hermaphrodite florets are fertile, and the achenes rostrate; the specimens are, however, not sufficiently advanced to verify these characters.—G. BENTHAM.

## PLATE 1139.

## LUINA HYPOLEUCA, Benth.

COMPOSITA, Tribe SENECIONIDEA?

**Luina**, Benth. gen. nov. *Capitula* homogama, discoidea, floribus omnibus hermaphroditis fertilibus. *Involucrum* campanulatum, bracteis subuni-

seriatim subequalibus carinatis, exterioribus perpaucis minimis v. nullis. *Receptaculum* subplanum, leviter foveolatum. *Corolla* regulares, tubulosæ, limbo elongato subcylindraceo apice 5-fido. *Antheræ* basi bimucronatae breviter 2-setosæ v. muticæ. *Stylæ* rami elongati, obtusi, extus papillosi. *Achænia* (immatura) subtereta, 10-striata, glabra. *Pappi* setæ copiosæ, tenues, scabriæ, albae.—*Herba, caulis erectis. Folia alterna, integerrima, subitus nivea. Capitula corymbosa. Corollæ flavæ.*

**L. hypoleuca, Benth., single species.**

HAB. N. W. America; amongst rocks, Cascade mountains, Lake Chilukweynk, D. Lyall.

*Caules* e caudice lignoso erecti, præter inflorescentiam simplices, 1-1½-pe-  
dales, laxe niveo-tomentosi. *Folia* sessilia, ovata elliptica v. ovali-lanceolata,  
acutiuscula v. obtusa, rigidula, 1-2-pollicaria, 3-5-nervia et eleganter venosa,  
supra glabra, subtus niveo-tomentosa. *Capitula* haud numerosa, confertim  
corymbosa, singula pedunculo 1-1½-pollicari fulta. *Involucrum* circa 4 in.  
longum, bracteis ad 12 linear-lanceolatis rigidulis. *Flores* involucro dimidio  
longiores. *Corollarum* lobi recurvi. *Antheræ* corolla longiores. *Achænia*  
glabra v. vix pilosula. *Pappus* mollis, niveus, involucro paulo longior.

Fig. 1. Involucrum and receptacle, longitudinal section. 2. Floret. 3. Three of its stamens. 4. Summit of its style.

The affinities of this plant are somewhat doubtful. A. Gray, on seeing the specimens in Herb. Hook. at once pronounced it to be a distinct genus with the style of an *Inula*, the stamens, involucrum, and pappus are, however, much more those of a *Senecio*; the filaments show also the peculiar dilatation or change of consistence below the anther which is much more frequent in Senecionideæ than in other tribes, although it does not appear to be generically constant even in *Senecio* itself.—G. BENTHAM.

---

PLATE 1140.

**GONGROTHAMNUS DIVARICATUS, Steetz.**

COMPOSITÆ, Tribe SENECIONIDEÆ.

**G. divaricatus, Steetz in Peters, Mossamb. Bot. 342.**

HAB. E. tropical Africa; Lower valley of the river Shire, J. Kirk,  
C. J. Mellor.

*Caules* pluripedales, lignosi, tenuis, ramis laxe divaricatis v. scandentibus,  
novellis cano-tomentellis mox glabratris. *Folia* alterna, petiolata, ovata v.  
ovato-lanceolata, acute acuminata, integra v. irregulariter dentata, basi

cuneata, 1½-3-pollicaria, triplinervia et pennivenia, supra glabra, subtus tomento minute incana. *Capitula* ad apices ramorum corymbosa. *Involucrum* circa 5 lin. longum, bracteis rigidulis acutissimis glabris v. minute ciliato-puberulis, intimis paleaceis subscariosis exterioribus gradatim brevioribus viridioribusque. *Receptaculum* foveolatum, foveolorum marginibus denticulatis. *Corolla* flavæ, breviter exsertæ. *Pappi* setæ sordidae, involucrum subæquantes. *Achænia* pilosula.

Fig. 1. Involucre and receptacle, longitudinal section. 2. Floret. 3. Three of its stamens, the auricles of the anthers not quite correct. 4. Summit of its style, the papillæ represented too much like hairs.

It is possible that this plant may prove to be identical with the *Vernonia solidaginifolia*, Boj. in DC., Prod. v. 30, but it is at any rate a congener; and Steetz appears to have been perfectly correct in removing it from *Vernonia* on account of its style, habit, and yellow flowers, all of which point to a much closer affinity with the Senecionideæ.—G. BENTHAM.

---

## PLATE 1141.

### CREMANTHODIUM RENIFORME, Benth.

#### COMPOSITÆ, Tribe SENECIONIDEÆ.

**Cremanthodium**, Benth. gen. nov. *Capitula* heterogama, radiata, floribus radii fœmineis 1-seriatim discique hermaphroditis fertilibus. *Involucrum* hemisphericum, bracteis sub-2-seriatim imbricatis membranaceis inæqualibus v. exterioribus paucis brevioribus. *Receptaculum* subplanum, foveolatum. *Corolla* fœmineæ ligulatae, lamina patente integra v. 3-dentata; hermaphroditæ regulares, tubulosæ, limbo cylindraceo apice 5-fido. *Antheræ* basi subintegreæ v. auriculis minutis sagittatae. *Styli* florum hermaphroditorum rami crassiusculi, plus minus complanati, obtusi, dorso papillosi. *Achænia* obtuse angulata, 5-10-striata, oblonga v. apice contracta. *Pappi* setæ copiosæ, tenues, scabriæ v. barbellatae.—Herbæ perennes, foliis plerique v. omnibus radicalibus cordato-reniformibus dentatis v. lobatis v. angustis pinatifidisque. Scapi 1-cephali, aphylli v. foliis prope basin paucis alternis. *Capitula* magna, nutantia. *Corolla* flavæ v. carnea.

**C. reniforme**, Benth., foliis orbiculato-cordatis reniformibusve crenato-dentatis. *Ligularia* ? *reniformis*, DC. Prod. vi. 315; *Senecio reniformis*, Wall. Cat. Herb. Ind. n. 3141.

**HAB.** Himalaya mountains at various elevations from 10,000 to 18,000 ft. West Tibet, Falconer, Jacquemont; Gossain Than, Wallich; Kumaon, Strachey and Winterbottom; Sikkim, J. D. Hooker.

*Caudex* crassus, brevis, perennis. *Folia* glabra, radicalia petiolo 3-8-pollicari fulta, magnitudine varia et forma nunc fere ovata et profunde cordata longiora

quam lata, nunc orbicularia v. latiora quam longa et breviter lateque cordata, in speciminiibus occidentalibus interdum 3-pollicaria dentibus grossis mucronulatis, in orientalibus dimidio minora obtuse crenata, specimina tamen plurima intermedia. *Scapi* foliis multo longioreis, superne asperius plus minus pubescentes et sub capitulo glandulosi, nunc aphylli v. vagina laxa herbacea instructi, nunc infra medium folia 1-2 gerentes radicalibus conformia nisi multo minora, petiolo tenui basi in vaginam laxam dilatata. *Capitula* magnitudine fere *Arnica montana*. *Involuci* bracteæ oblongæ v. lanceolatae, acuminatae, semipollicares, 2-serialis absque bracteis exterioribus accessoriis. *Ligulae* 15-20,  $\frac{1}{2}$ -1-poll. longæ, integræ. *Corollæ* disci numerosæ, involucrum vix superantes. *Anthers* breviter exsertæ. *Acæmia* glaberrima, anguste oblonga, infra medium attenuata, angulis ante maturitatem prominentibus, demum minus conspicuus. *Pappus* in forma normali albus, setis tenuibus rigidulis 1-serialis.

Fig. 1. Floret of the ray. 2. Floret of the disk. 3. Three of its stamens.

Dr. Hooker's Sikkim collection contains also specimens of a marked variety *phæopappum*, with smaller leaves and flowers, and the pappus of a brownish colour. I can detect no other difference. The genus appears to me, both in habit and style, to be nearer to *Homogyne* than to *Senecio* or *Ligularia*. The style figured in the plate is taken from an old flower, the branches having shrunk at the extremity. When the flower first expands the style branches are of equal breadth to the end, where they are rounded without any appendages, the stigmatic series running quite to the end.—G. BENTHAM.

## PLATE 1142.

### CREMANTHODIUM PALMATUM, Benth; and

### C. PINNATIFIDUM, Benth.

### COMPOSITES, Tribe SENECIONIDÆ.

**C. palmatum**, Benth. sp. nov., foliis suborbiculatis profunde palmatim 6-12-fidis.

HAB. Sikkim Himalaya, at an elevation of 12,000 to 14,000 ft., J. D. Hooker.

*Statuta* et *Capitula* speciminum minorum *C. reniformis*. *Folia* plurima, infra medium caulis longiuscule petiolata, parce pilosula; petioli basis anguste vaginata v. sequalis, lamina  $\frac{1}{2}$ -1-poll. diametro, ad medium v. profundius inæqualiter tamen lobata. *Pappus* albus, formæ typicæ *C. reniformis*. *Corollæ* pallide carneæ.

**C. pinnatifidum, Benth. sp. nov.**; foliis oblongis profunde pinnatifidis.

HAB. Sikkim Himalaya, at an elevation of 14,000 to 15,000 feet, *J. D. Hooker.*

*Scapi* vix semipedales. *Folia* radicalia 1-2-pollicaria, petiolo brevi vix dilatato, lamina fere ad rhachin divisa, laciniis utrinque 5-9 oblongis interdum curvis integerrimis v. uno latere 1-2-dentatis 2-4 lin longis; *caulina* prope basin scapi pauca v. 0, dum adaint interdum radicalibus majora, petiolo basi in vaginam latissimam dilatato, v. folium interdum ad vaginam solam reductum. *Capitula* et flores omnino *C. reniformis*.—G. BENTHAM.

## PLATE 1143.

## THESPIDIUM BASIFLORUM, F. Muell.

## COMPOSITES, Tribe INULOIDEAE PLUCHEINAE.

**T. basiflorum, F. Muell.**; *Benth. Fl. Austral.*, iii., 534.—*Pluchea basiflora*, F. Muell. Rep. Babb. Exped. 12.

HAB. Tropical Australia; islands of the Gulf of Carpentaria, *R. Brown*; Port Essington, *Armstrong*; Upper Gilbert River, *F. Mueller*.

*Caules* e basi dense cæspitosa numerosi, rigidi, diffusi v. ascendentibus, uti *folia* et involucra pubescentes v. hirsuti, plerique semipedales v. rarius subpedales. *Folia* alterna, subsessilia, rigida, linearia v. lineari-lanceolata, mucronato-acuta, integra v. acute paucidentata, rarius pollicem excedentia, basi longiuscule contracta. *Capitula* anguste ovoidea, 3-4 lin longa, ad axillas sessilia, superiora solitaria distantia, inferiora per 2-4 in axillis aggregata, et prope basin caulium more specierum quarumdam *Lepidagathis* densissime conferta. *Flores* feminei numerosi, hermaphroditi in disco solitarii v. pauci. *Corolla* et *pappus* involucro breviores. *Achænia* pilis glochidiatis hispida.

Fig. 1. Receptacle and involucrum, longitudinal section. 2. Female floret. 3. Hermaphrodite floret. 4. Three of its stamens. 5. Achene and pappus. 6. One palea of the pappus.

This plant is chiefly remarkable for its habit. In essential characters it is nearly allied to *Pluchea*, from which it is technically distinguished by the pappus and inflorescence.—G. BENTHAM.

## PLATE 1144.

**ADELOSTIGMA SENECALENSIS, Benth.**

COMPOSITÆ, Tribe ASTEROIDÆ CONYZÆ.

**A. senegalensis, Benth. sp. nov.**; foliis breviter pinnatisectis, capitulis foliis floralibus cinctis.

HAB. Senegambia; marshy places, Fouta d'Hiallon, *Hendelot*, n. 677.

*Herba* annua, erecta, rigidula, subpedalis, superne parce ramosa, glabra, caule ramisque lineis elevatis v. alis angustissimis a foliis decurrentibus percursis. *Folia* linearia, acutissima, 1-2-pollicaria, segmentis tenuibus subulatis distantibus 1-2 lin. longis; summa breviora, segmentis paucis, sub capitulo conferta. *Capitula* ad apices ramorum solitaria, intra folia summa sessilia,  $\frac{1}{2}$  poll. diametro. *Involucri* bracteæ a foliis floralibus gradatim diminutas, lineares, acuminatæ, integerrimæ, exteriores parce pubescentes. *Flores* fœminei, numerosi, multi-seriati, corollis tenuissimis pappo involucroque multo brevioribus, stylis longe exsertis tenuissimis filiformibus in ramos longos divisis; flores hermaphroditi solitarii v. perpauci, corollis longe angusteque tubulosis 5-dentatis. *Antheræ* basi emarginatæ v. breviter obtuseque sagittatæ, auriculis connatis. *Stylus* indivisus, obtusus, extus papillosum. *Achenia* flororum fœmineorum hirtella, obtusangula, pappi setis basi leviter in annulum cohærentibus; flororum disci forte sterilia.

Fig. 1. Female floret. 2. Hermaphrodite floret. 3. Three of its stamens. 4. Summit of its style.

I had long since indicated this as a new genus in Sir W. Hooker's herbarium, and alluded to it as such in the 'Niger Flora,' p. 481, but when describing it for the 'Genera Plantarum' it appeared to me closely allied to the more recently published *Adelostigma* of Steetz, from Mozambique. An inspection of Peters's original specimen, lent for the purpose by the Royal Herbarium of Berlin, has shown that the two are strictly congeners, although specifically distinct.—G. BENTHAM.

## PLATE 1145.

**ASEMNANTHE PUBESCENS, Hook, f.**

RUBIACEÆ, Tribe CHIOCOCCEÆ.

**Asemnanthe, Hook. in Benth. and Hook. f. Gen. Pl. ii., 106.**

HAB. Yucatan; in moist woods near Ciapas, *Linden* (n. 1264 bis).

*Frutex* tomentosus, ramulis gracilibus divaricatis teretibus. *Folia* 1-2-poll. longa, opposita, breviter petiolata, elliptica, obtusa v. acuta, membranacea, nervis obscuris. *Stipulae* interpetiolares, parvæ, subulatæ. *Flores*

parvi,  $\frac{1}{4}$ — $\frac{1}{2}$ -poll. longi, in fasciculos paucifloros axillares dispositi, flavi, breviter pedicellati, pedicello bracteolato, bracteola subulata. *Calyx* tubus minutus, ovoideus; limbus tubum longe superans, 4-partitus, segmentis lanceolatis acuminatis persistentibus. *Corolla* urceolato-tubulosa, pubescens, ore subcontracto, fauce glabra; limbi parvi lobi 4, erecto-patentes, ovati, acuti, valvati. *Stamina* 4, fundo tubi corollæ inserta, filamentis erectis barbatis; antheræ basifixæ, lineari-oblongæ, utrinque obtusæ, inclusæ. *Dicæus* obscurus. *Ovarium* 2-loculare; stylus filiformis, apice paulo incrassatus, stigmate obtuso exserto; ovula in loculis solitaria, ab apice pendula, oblonga, lateraliter compressa, funiculo brevissimo. *Frutus* immaturus ovoideus, pubescens, 2-locularis, loculis angustis. *Semina* desunt.

Obviously a member of the American tribe *Chiococceæ*, and closely allied to *Salzmannia* in its axillary inflorescence, tetramerous flowers, filaments united into a tube which is inserted at the base of the corolla-tube, and in the basifixated anthers; but differing widely in habit, in the calyx, structure of the style, and in the simple funicle of the ovule.—J. D. HOOKER.

Fig. 1. Flower. 2. The same with the corolla laid open. 3. Vertical section of ovary. 4. Transverse section of ditto:—all magnified.

## PLATE 1146.

### SYNAPTANTHA TILLÆACEA, Hook. f.

RUBIACEÆ, Tribe HEDYOTIDÆ.

*Synaptantha*, Hook. f. in Benth. and Hook. f. Gen. Pl. ii, 61.

*S. tillæacea*, Hook. f. l. c. Hedyotis tillæacea, F. Muell., Fragm. Fl. Austral. iv. 39; Benth. Fl. Austral. iii. 405.

HAB. Sub-tropical Australia, in plains, Sir T. Mitchell, No. 417 (Nov. 1846); Swan River, Drummond, No. 108, 4th coll.; between Darling River and Cooper's Creek, Howitt's Expedition; Sutton River, Bowman; MacKenzie River, F. Mueller.

*Herba* humilis, perennis, ramosa, basi lignosa, minutissime scaberula, ramulis erectis v. patulis teretibus siccitate sulcatis. *Folia* opposita,  $\frac{1}{4}$ — $\frac{1}{2}$ -poll. longa, in plantis junioribus obovato-spathulatis, in senioribus linearibus rigidulis acutis, marginibus recurvis. *Stipulae* breves, interpetiolares, membranaceæ utrinque cum foliorum basibus connatae, persistentes, truncatæ v. 2-dentatae. *Flores* ex albo rubescentes, solitarii v. pauci,  $\frac{1}{8}$ -poll. diam., pedunculati, pedunculis rigidis folio brévioribus v. paulo longioribus, 1-rarisime 3-floris, ebracteatis. *Calyx*  $\frac{1}{2}$ -superi tubus turbinatus; limbi lobi 4, herbacei, lineares, distantes, persistentes. *Corolla* rotata, ad basin 4-partita, glabra; segmenta vix connata, ovato-lanceolata, acuta, calycis tubo paulo longiora, valvata, marcescentia. *Stamina* 4, inter segmenta corollæ inserta,

et lateribus ovarii adnata, peraestantia, filamentis filiformibus; anthers domo affixae, parvae, oblongae. *Dicranis inconspicuum*. Ovarium  $\frac{1}{2}$ -superum, vertice hemispherico, 2-locularis; stylus gracilis, ramis 2 parvis linearibus divaricatis recurvis; ovula in loculis plurima, placentis septo adnatis inserta. Capsula  $\frac{1}{2}$ -supera, latior quam longa, sepalis petalis staminibusque persistentibus circumdata, vertice late conico v. truncato 2-lobo obtuso, coriacea, 2-locularia, loculicide 2-valvis, valvis apice demum 2-fidis, oligosperma. Semina oblonga, obtuse angulata, facie ventrali planiuscula v. convexa inserta, testa lata, albumine carnoe; embryo teres, cotyledonibus oblongis.

At first sight this singular little plant resembles an *Oldenlandia*, but on a closer examination proves so different from that genus that I almost doubt its affinity with it, and possibly its being rightly placed in the same tribe with it. It widely differs from the prevalent characters of Rubiaceae in the completely 4-partite corolla, the lobes of which are scarcely perceptibly connate, and firmly adnate by a broad base to the ovary and are both persistent and marcescent. The filaments also are so firmly adherent both to the ovary and to the very base of the petals, that they are equally persistent, and it is difficult to pronounce them to be either epigynous or epipetalous, a point only determinable by the study of very young buds. These characters are very suggestive of a Gentianal alliance, and especially of one with *Mitrasacme*, but the style is single, the stipules are very conspicuous, and the insertion of the stamens is quite different.

The specimens from Drummond and from Howitt's Expedition are very small, evidently first year's, with a slender root, and spreading herbaceous branchlets, smaller broader leaves, shorter sepals and petals and a broader capsule; they may be taken for a different and annual species, but I suspect that they are seedling states.—J. D. HOOKER.

Fig. 1. Flower. 2. The same laid open. 3. Fruit. 4. Vertical section of ditto. 5. Seed:—all magnified.

## PLATE 1147.

### STILPNOPHYLLUM LINEATUM, Hook. f.

RUBIACEÆ, Tribe CINCHONEÆ?

Genus **Stilpnophyllum**, Hook, f. in. *Benih.* and *Hook. f. Gen. Pl.* ii. 38.

**S. lineatum**, Hook, f. l. c. *Elæagia lineata*, Spruce, n. 4568.

HAB. Eastern Peru, on the summit of the Cerro Pelado, near Tarapoto, Spruce, (n. 4568.)

*Arbuscula* ramosa, 10-pedalis (Spruce), glaberrima, 8-chotome ramosa; ramulis lignosis teretiusculis, cortice siccitate atro obtectis, ultimis obscure

4-gonis gemmatisque vernicosis. *Folia* opposita, petiolata, coriacea, 3-4-poll. longa, elliptico-lanceolata, acuminata, superne castanea nitida costa depressa, nervis perplurimis divaricatis parallelis lineata, subtus pallida costa valida, nervis gracillimis; petiolo  $\frac{1}{4}$ -poll. longo. *Stipulae* majuscule, intrapetiolares, erectæ, oblongæ, obtusæ, coriaceaæ, caducæ. *Flores*  $\frac{1}{2}$ -poll. longi, in paniculas breves terminales dispositi, brevissime pedicellati, albo-virides, minute bracteolati; paniculae ramis oppositis crassis compressis patentibus, basi breviter bracteatis. *Calycis* tubus turbinatus; limbi brevis dentes 5, ovati, acuti, persistentes. *Corolla* infundibulari-campanulata, coriacea, tubo glabro, fauce dense villosa; limbi lobi 5, tubo paulo breviores, oblongi, obtusi, revoluti, valvati. *Stamina* 5, fauci corollæ inserta, filamentis filiformibus; antheræ dorso basi affixæ, erectæ, lineares, obtusæ, exsertæ. *Discus* conicus. *Ovarium* 2-loculare; stylus breviusculus, ramis 2 linearibus obtusis intus papillosum; ovula in loculis numerosa, placeutis septo medio adnatis affixa. *Fructus* deest.

Until the fruit of this curious plant is known, its place in the Order cannot definitely be ascertained. That it is no *Elæagia* is evident from the valvate corolla-lobes, and absence of the appendages at the base of the filaments. If not belonging to *Cinchoneæ* proper, it must be referred to *Rondeletieæ* and to the neighbourhood of *Rondeletia* itself, from which it differs altogether in habit, whilst on the other hand it has all the appearance of a member of the tribe *Cinchoneæ*.—J. D. HOOKER.

Fig. 1. Flower. 2. The same with the corolla laid open. 3. Stamens. 4. Vertical section of disk and ovary:—all magnified.

### PLATE 1148.

#### CHALEPOPHYLLUM GUYANENSE. Hook. f.

RUBIACEÆ, Tribe RONDELETIEÆ.

**Chalepophyllum**, Hook. f. in Benth. and Hook. f. Gen. Pl. ii. 50.

HAB. British Guiana, Schomburgh.

*Frutex* v. *arbor*, ramulis robustis lignosis obtuse 4-gonis, ultimis pube (exsiccata) atra brevi dense vestitis. *Folia* 1-2  $\frac{1}{2}$ -poll. longa, crasse coriacea, opposita, obovata, apice rotundata, in petiolum brevem crassum angustata, marginibus tenuiter recurvis, superne siccitate fuscis nitidis costa furfuracea nervisque rectis parallelis divaricatis depresso; subtus brunnea, tomento appresso vestita, inter nervos latiusculos areolata. *Stipulae* interpetiolares, breves, latæ, subacutæ, persistentes. *Flores*  $\frac{1}{2}$ -poll. longi, in axillis oppositis solitarii, breviter pedicellati, pedicello 2-bracteolato, bracteolis coriaceis. *Calycis* tubus turbinatus; limbi lobi 5, inæquales, lineari-spathulati, ovati, obtusi, rigidi, persistentes. *Corolla* infundibularis, fauce villosa; limbi  $\frac{1}{2}$ -poll. diam. lobi 5, patentes, late oblongi, obtusi, contorti. *Stamina* 5, fauci corollæ inserta; filamentis filiformi-subulatis; antheræ dorso basi affixæ.

lineari-subulatae, acutæ, connectivo dorso incrassato, inclusæ. *Discus* tumidæ. *Ovarium* 2-loculare; stylus filiformis, glaber, ramis 2 brevibus linearibus; ovula in loculis numerosa, placentis septo medio adnatis affixa. *Capsula*  $\frac{1}{2}$ -poll. longa, ellipsoidea, crasse crustacea, vertice inter lobos calycinos conico truncato, 2-locularia, septicide 2-valvis, polysperma. *Semina* parva, subcompressa, angulata, angulis vix in alam productis, umbilico ventrali, testa coriacea reticulata.

A very distinct plant, evidently allied to *Rondeletia*, but differing in the contorted corolla-lobes and unequal calyx-segments, as also in the solitary axillary flowers. The specimens are neither copious nor very complete, but I think that the corolla-lobes are strictly contorted. The hairs within the corolla-throat are flattened and twisted.—J. D. HOOKER.

Fig. 1. Flower. 2. Ovary and calyx. 3. Corolla laid open. 4. Stamen. 5. Seeds:—  
all magnified.

### PLATE 1149.

#### LEPTOSCELA RUELLIOIDES, Hook. f.

RUBIACEÆ, Tribe HEDYOTIDÆ.

*Leptoscela*, Hook. f. in Benth. and Hook. f. Gen. Pl. ii. 59.

HAB. Brazil, in the province of Ilhios, Blanchet, n. 2399.

*Herba* dichotome ramosa, ramis strictis gracillimis teretibus, internodiis elongatis. *Folia* 1½-2-poll. longa, opposita, breviter petiolata, ovato-lanceolata, acuminata, membranacea, subtus pubescentia. *Stipulae* interpetiolares, breves, membranaceæ, multisetosa. *Flores* parvuli, gracile pedicellati, in cymas unilaterales exiles fere capillares axillares et ad dichotomias laterales dispositi, pedicellis basi setaceo bracteolatis inferioribus v. omnibus florem sessilem in axilla gerentibus, fructiferis  $\frac{1}{2}$ -poll. longis. *Calyx* tubus turbinatus v. obconicus; limbi lobi 5, subulato-lanceolati, tubo æquilongi, persistentes. *Corolla*  $\frac{1}{2}$ -poll. longa, infundibularis, fauce glabra; limbi lobi 5, ovati, acuti, patentæ, valvati. *Stamina* 5, fauci corollæ inserta, filamentis brevibus filiformibus; antheræ dorso affixa, lineares, utrinque obtusæ,  $\frac{1}{2}$ -exsertæ. *Discus* conicus. *Ovarium* 2-loculare; stylus filiformis, ramis 2 linearibus; ovula in loculis numerosa, placentis elongatis septo medio affixis inserta. *Capsula*  $\frac{1}{2}$ -poll. longa, membranacea, ellipsoideo-oblonga, teres, costulata, vertice conico producto membranacea septicide 2-valvi, valvis longe ultra calycem productis 2-fidis. *Semina* immatura numerosa, oblonga v. obovoides, testa ut videtur fungosa.

Of this very singular plant, I have seen but two fragments, evidently the tops of a tall very slender branching and probably annual herb, quite unlike any Rubiaceous plant known to me, whether in general habit or in inflorescence. The individual racemes lengthen much (to 6-10 in.) in fruit, are almost filiform,

and bear the flowers in pairs on the side towards the axis, one flower being pedicelled, and the other sessile in the axil of the pedicel; towards the tip of each raceme the rachis usually forks and bears a flower in the fork.—J. D. HOOKER.

Fig. 1. Flower. 2. Calyx, ovary, and style. 3. Corolla laid open. 4. Stamen. 5. Capsule. 6. Vertical section of the same. 7. Immature seed:—*all magnified*.

## PLATE 1150.

### SOLENANDRA IXOROIDES, Hook. f.

RUBIACEÆ, Tribe CINCHONEÆ.

*Solenandra*, Hook. f. in Benth. and Hook. f. Gen. Pl. ii. 43.

HAB. Island of Cuba, *Don Ramon de la Sagra* (communicated by M. Franqueville).

*Arbor* v. *frutescens* glaberrimus, habitu *Izora*, ramulis adscendentibus lignosis teretibus, cortice fusco lenticulis consperso. *Folia* 1½-1-poll. lata, opposita, late elliptica v. fere orbicularia, obtusa, coriacea, supra nitida, exsiccatione atro-fusca, subtus pallida, opaca; nervis paucis patentibus arcuatis, inter nervos reticulata; petiolo ½-1-poll. longo. *Stipulae* intrapetiolares, parvæ, obtusæ, deciduae. *Corymbi* terminales, 3-chotome ramosi, ramulis puberulis patentibus gracilibus teretibus multifloris, primaria basi foliatis, ceteris basi bractea minuta subulata suffultis. *Flores* conferti, erecti, ½-poll. longi, breviter pedicellati, bracteolis minutis v. 0. *Calycis* tubus parvus, ovoideus; limbus 5-dentatus. *Corolla* hypocrateriformis, tubo ½-poll. longo gracili intus glaberrimo; limbi ½-poll. diam. lobi 5, oblongi, imbricati, lobis 2 exterioribus. *Stamina* 5, filamentis infra medium in tubum gracilem ima basi corollæ tubi insertum (fere epigynum) connatis, superne liberis; antheræ basifixæ, lineares, obtusæ, erectæ, exsertæ. *Discus* inconspicuus. *Ovarium* 2-loculare; stylus filiformis, stigmate capitellato; ovula in loculis pauca (6-8), a dorso compressa, placentis supra medium septi affixis pendulis inserta. *Frutus* deest.

In general appearance this plant resembles an *Izora*, but is clearly polyspermous, and in the absence of ripe seeds I refer it with little hesitation to the tribe Cinchoneæ, where it ranges naturally enough near *Exostemma*, differing from it, and indeed from most of the Order, in the filaments being connate below, as in *Capirona* and *Monadelphanthus*, and inserted so near the base of the corolla-tube as to be all but epigynous, as in *Chiococca* and other members of the tribe Chiococceæ. Some fruits, which accompanied the specimen, evidently belong to another plant, being drupes with 2-celled putamens and solitary seeds.—J. D. HOOKER.

Fig. 1. Flower. 2. Ovary, style, and stigma. 3. Stamen. 4. Vertical section of ovary. 5. Ovule:—*magnified*.

VOL. II. THIRD SERIES.

## PLATE 1151.

**HEKISTOCARPA MINUTIFLORA, Hook, f.**

RUBIACEÆ, Tribe HEDYOTIDEÆ.

*Hekistocarpa, Hook. f. in Benth. and Hook f. Gen. Pl. ii. 62.**H. minutiflora, Hook. f., species unica.*

HAB. Western tropical Africa, mouths of the Old Calabar river, G. Mann (Feb. 1863).

*Herba* 4-5-pedalis, substrigoso-pilosa, annua, caulis gracilis cylindraceis elongatis. *Folia* 3-4 poll. longa, opposita, tenuiter membranacea, elliptico-lanceolata, in petiolum brevem gracilem angustata, acuminata, utrinque sparse strigillosa. *Stipulae* interpetiolares, ovato-lanceolatae, herbaceæ, reflexæ. *Flores* minimi,  $\frac{1}{2}$  poll. longi, in ramis gracillimi cymæ dichotomæ axillaris secundi, approximati, sessiles v. brevissime pedicellati, pedicellis bracteolis minimis subulatis suffultis. *Calyx* tubus oblongus, dentes 5, persistentes. *Corolla* infundibularis, tubo intus glabro, fauce pilosa; limbi lobi 5, late ovati, obtusi, reduplicatim valvati. *Stamina* 5, tubo corollæ inserta, inclusa; antheræ sessiles, oblongæ, obtuseæ. *Discus* cupularis. *Ovarium* 2-loculare; stylus gracilis, ramis 2 spathulatis divaricatis; ovula in loculis numerosa, 1-seriata, placentis filiformibus septo longitudinaliter adnatis inserta, adscendentia. *Capsula* minuta, crustacea, lineari-oblonga, utrinque obtusa, septo contrarie compressa; septicide in coccis 2 tarde dehiscentes partibilis, oligosperma.  *Semina* minuta, 1-seriata, subglobosa, obtuse angulata, testa crassiuscula foveolata, albumine parco; embryo clavatus, 2-fidus.

A Hedyotideous herb, apparently annual, differing much in habit from its congeners, though approaching in inflorescence to *Leptoscelis* (tab. 1149), *Spiradiclis*, *Ophiorhiza*, and other genera of *Hedyotideæ* with scorpioid cymes. The capsule is almost indehiscent, and the ovule and seeds seem to be regularly uniseriate in each cell.—J. D. HOOKER.

Fig. 1. Bud (æstivation incorrectly represented). 2. Flower, bracteole, and portion of rachis of cyme. 3. Corolla laid open. 4. Stamens. 5. Vertical section of ovary. 6. Capsule. 7. Seed. 8. Embryo:—all magnified.

## PLATE 1152.

**SALMEOPSIS CLAUSSENII, Benth.**

COMPOSITE, Tribe HELIANTHOIDÆ VERBESINÆ.

*Salmeopsis*, Benth. in Benth. et Hook. Gen. Pl. ii. 381.*S. Claussenii*, Benth. sp. unica.

HAB. Brazil, prov. Minas Geraes, Claussen.

*Frutex* videtur, forte subscandens, glaber v. minute scaberulus. *Rami* adsunt pedales subteretes. *Folia* opposita, per paria distantia, breviter petiolata, ovata v. late ovato-lanceolata, acuminata, 2-3 poll. longa, 1-1½ poll. lata, brevissime et distanter dentata interdum inter dentes leviter sinuata, utrinque viridia, 3-nervia irregulariter pennivenia et subreticulata, nervis venisque subtus prominulis supra impressis, supra nitidula. *Corymbus* inter foliorum par supremum aphyllus, a basi trichotome ramosus, ramis primariis 2-4-pollicaribus ultimis brevissimis. *Bractæ* sub ramulis corymbi parvæ, acutæ. *Capitula* 3-4 lin. diametro, apice subplana, receptaculi paleis corollisque involucra vix superantibus. *Involucri* bractæ minute puberulæ, margine ciliolatae.

This plant has apparently the habit and several of the characters of the West Indian and Mexican genus *Salmea*, but the pappus is nearer to that of *Viguiera*.—G. BENTHAM.

Fig. 1. Flowerhead without the flower, longitudinal section, showing the receptacle and paleæ. 2. Floret. 3. Palea of the receptacle. 4. One awn and the intermediate squamellæ of the pappus. 5. Three of the stamens. 6. Upper portion of the style.

## PLATE 1153.

**OTOPAPPUS VERBESINOIDES, Benth.**

COMPOSITE, Tribe HELIANTHOIDÆ VERBESINÆ.

*Otopappus*, Benth. in Benth. et Hook. Gen. Pl. ii. 380.*O. verbесinoides*, Benth. sp. unica.

HAB. Chontales in Nicaragua, Seemann, Tate.

*Herba* v. *suffrutex* ut videtur erectus, siccitate nigricans, pilis brevibus rigidis appressis conspersus. *Folia* breviter petiolata, ovato- v. oblongo-lanceolata, acuminata, remote dentata, 3-5-pollicaria, supra nitidula scabriuscula, pinnatim paucivenia. *Pedunculi* in axillis superioribus

laxe 3-5-cephali, tenues, foliis multo breviores. *Involucra* late campanulata v. subhemisphaerica, 4-5 lin. diametro. *Bracteæ* pauciseriate, intime erectæ striatae in paleas receptaculi abeuntes, exteriores breviores apice herbaceo patentes. *Flores* radii 6-8, ligulis angustis  $2\frac{1}{2}$ -3 lin. longis; disci involucro longiores, limbo cylindraceo demum recurvo. *Achænia* angusta, nigra, ad 2 lin. longa, a latere compressa, angulis 2 acutis, superiore rarius etiam inferiore pappo decurrente anguste alato. *Pappus* latere interiore in aristam productus sæpe lineam longam dorso ala in acbanio decurrente appendiculatam, cæterum breviter paleaceus, lacero-dentatus, rarius latere exteriore in aristam brevem productus.—G. BENTHAM.

Fig. 1. Floret of the ray. 2. Summit of its style. 3. Floret of the disk. 4. Three of its anthers. 5. Summit of its style.

## PLATE 1154.

### HYMENOSTEPHİUM MEXİCANUM, Benth.

COMPOSITÆ, Tribe HELIANTHOIDÆ VERBESINÆ.

*Hymenostephium*, Benth. in Benth. et Hook. Gen. Pl. ii. 382.

*H. mexicanum*, Benth., foliis ovatis acutis serratis, corymbo basi foliato, pappi squamellis majoribus latitudine achænii multo brevioribus.

HAB. Mexico, Cordova Valley, Bourgeau, n. 1932.

*Herba?* v. *suffrutex?* glaber v. apice minute cano-puberulus, caule erecto ramoso haud crasso, apex florifer in speciminibus ultrapedalis. *Folia* opposita, per paria distantia, summa floralia alterna, petiolo  $1\frac{1}{2}$ -pollici-faria fulta, ovata, acute acuminata et inæqualiter serrata, majora 2-3-pollicaria membranacea tri-quintuplinervia, floralia ad basin pedunculorum minora. *Pedunculi* in axillis superioribus foliis paullo longiores, singuli corymbo laxiusculo pleiocephalo terminati, inflorescentia tota laxe corymboso-paniculata basi foliata; pedunculi ultimi breves filiformes. *Involucra* haud late campanulata, vix 3-lin. longa, bracteis pauciseriatis imbricatis acutis striatis, exterioribus gradatim brevioribus. *Receptaculi* paleæ bracteis involucri similes nisi gradatim tenuiores floresque amplectentes. *Flores* radii 8-10, neutri, lamina flava patente subintegra ad 2 lin. longa; disci plurimi involucro paullo longiores, tubo vero brevissimo, limbo tubuloso apice breviter 5-fido. *Achænia* a latere compressa, nigra, parce pilosula. *Pappi* squamellæ minimæ denticulatæ, 2 paullo majores, 1-2 minimis sæpius utrinque interpositis.

The second species of this genus from New Grenada, Linden, n. 1393, mentioned in the *Genera Plantarum*, may be thus characterised:—

**H. angustifolium**, Benth., suffruticosum, foliis lineari-lanceolatis sub-dentatis, corymbis longe pedunculatis, pappi squamellis majoribus latitudine achenii sublongioribus.—*Caules* basi lignosi ramosi, ramis erectis superne foliisque novellis tenuiter canescentibus. *Folia* omnia opposita, in petiolum contracta, 1–2-pollicaria. *Pedunculi* corymbiferi foliis 2–3-plo longiores. *Involucra* et flores *H. mexicana*. *Pappi* squamellæ hyalinæ, latiusculæ, lacero-dentatæ, majores fere  $\frac{4}{5}$ -lin. longæ.—G. BENTHAM.

Fig. 1. Floret of the ray. 2. Floret of the disk. 3. Summit of its style. 4. Achene.

### PLATE 1155.

#### GYMNOPENTZIA BIFURCATA, Benth.

##### COMPOSITE, Tribe ANTHEMIDEÆ TAXACETÆ.

*Gymnopentzia*, Benth. in Benth. et Hook. Gen. Pl. ii. 537.

*G. bifurcata*, Benth. l.c., species unica.

HAB. Danup rocks to the west of Mount Boschberg, in the Diamond district, South Africa. Macowan.

*Frutex* habitu fere *Athanasiæ*, glaber v. pilis raris reflexis pubescens et partes juniores interdum subcanescentes; rami virgati, fastigiati, dense foliati. *Folia* opposita, basi subconnata, ad axillas sæpe fasciculata, anguste linearia, crassiuscula, sulcata, majora  $\frac{1}{2}$ -poll. longa, pleraque apice bifurca v. ad medium biloba, cæterum integerrima. *Capitula* parva, ad apices ramorum confertim corymbosa. *Pedunculi*  $\frac{1}{2}$ – $\frac{3}{4}$  pollicares, medio sæpius bibracteati. *Involucrum* latiuscule campanulatum, 2 lin. longum; bractæ 3–4-seriatæ, oblongæ, appressæ, apice scarioso-marginatæ v. sphacelatæ, obtusæ, exteriores gradatim breviores. *Flores* involucrum breviter superantes. *Corolla* tubus cum ovario subcontinuus, minute papillosus, limbo parum ampliato breviter 5-fido. *Anthere* et stylus omnino *Anthemidearum*. *Achenia* subteretia, 12–15-costata, leviter puberula, pappo omnino deficiente.

This plant is nearly allied to the genus *Pentzia*, but the opposite leaves, almost exceptional in the tribe, and the achenes showing at least in the unripe state twelve to fifteen prominent ribs instead of five angles, induced me to establish it as a distinct genus. The forked leaves are also peculiar.—G. BENTHAM.

Fig. 1. Leaf. 2. Flower-head. 3. Floret. 4. Three of its anthers. 5. Summit of its style.

## PLATE 1156.

**PLUCHEA PINNATIFIDA, Hook. f.**

COMPOSITE, Tribe INULOIDEÆ PLUCHEINÆ.

P. (Oligocephalum) *pinnatifida*, Hook. f. sp. n. *fruticosa*, *glutinosa*, *foliis pinnatifidis lobis linearibus, capitulis paucis pedunculatis subcorymbosis, involucri bracteis pluriseriatis angustis.*

HAB. Soumali country, East tropical Africa, *Capt. Playfair.*

*Frutex* ramosissimus, glutinosus, cæterum glaber, ramulis tenuibus foliosis. *Folia*  $\frac{1}{2}$ -1-pollicaria, fere ad costam divisa in lobos paucos breviter lineares obtusos carnosulos. *Pedunculi* ad apices ramorum pauci, monocephali,  $\frac{1}{2}$ -1-pollicares. *Involucrum* campanulatum, ad 4-lin. longum, bracteis numerosis, acutiusculis, pluriseriatis rigidulis, exterioribus gradatim brevioribus. *Receptaculum* nudum. *Flores* *faminei* pluriseriati; corolla tenuissima, subtridentata, pappum non excedens. *Stylus* exsertus, ramis filiformibus. *Flores hermaphroditi* in medio capitulo plures, corolla anguste tubulosa apice breviter 5-fida. *Antheræ* basi brevissime caudatae. *Style* rami (an semper?) lineares, erecti, conniventes (v. connati?). *Achenia* parva, villosula. *Pappi* setæ paucæ, tenues, vix serrulatae.

The stems of this plant and of the *Iphionu rotundifolia*, Oliv. and Hiern, under the common name of *Gagaboot*, are employed medicinally by the Somalis for the cure of almost all diseases. Mr. Vaughan, who, when Port Surgeon at Aden, contributed an interesting paper on Arab drugs to the pages of the 'Pharmaceutical Journal,' describes these stems under the name *Dagaboot*, and states that they are employed by the natives in nearly every ailment, but especially for pain in the bowels, anorexia, and debility after fevers. (D. Hanbury.) Captain Playfair's specimens are far advanced, and not in a very good state, but the species is a very well marked one, allied only to the following *P. frutescens*.—G. BENTHAM.

Fig. 1. Female flower. 2. Summit of its style. 3. Bristle of its pappus. 4. Hermaphrodite flower. 5. Three of its stamens. 6. Summit of its style. 7. Inner bract of the involucrum.

## PLATE 1157.

## PLUCHEA FRUTESCENS, Benth.

COMPOSITÆ, Tribe INULOIDEÆ PLUCHEINEÆ.

**P.** (Oligocephalum) **frutescens**, *Benth. sp. n.* fruticosa, ramosissima, glabra v. parce piloso-pubescent, foliis oblongo-lanceolatis obovatisve grosse dentatis v. subpinnatifidis, capitulis paucis pedunculatis subcorymbosis, involucri bracteis pluriseriatis angustis.

HAB. Scinde and Punjab. *Stocks, Dalzell, Aitcheson*, and others.

*Frutescens* ramosissimus, prope marem carnosus, in regione interiore lignosus foliis tenuioribus (Dalzell), glaber v. pilis raris pubescens et (ex sicco) saepe glutinosus. *Ramuli* saepius dense foliati. *Folia* forma valde variabilia, sessilia, 1-1½-poll. longa, nunc omnia acuta angusta et grosse v. breviter paucidentata, nunc late oblonga v. obovata irregulariter subduplicato-dentata, infra medium contracta et profunde dentata v. lobata. *Capitula* ad apices ramorum haud numerosa, in corymbum simplicem folia vix excedentem disposita, pedunculis tenuibus ½-1-poll. longis. *Involucrum* campanulatum, ad 4 lin. longum, bracteis acutissimis rigidulis pluriseriatis, exterioribus gradatim brevioribus. *Receptaculum* omnino nudum nec foveolatum. *Flores* numerosi; fœminei in ambitu pluriseriati; corollæ filiformes, tenuissimæ, limbo vix dilatata, saepissime 3-dentato, stylo exerto ramis longis subulatis; hermaphroditi in centro plurimi, saepius numerosi; corolla tenuiter tubulosa, limbo parum latiore 5-fido. *Antherae* basi breviter cundato-auriculatae. *Stylus* simplex, apice obtusus pilosulusque. *Achænia* parva, villosula. *Pappi* setæ tenues, haud numerosæ, breviter serrulato-barbellatae.—G. BEN-THAM.

Fig. 1. Female flower, but the corolla represented much too thick. 2. Summit of its style. 3. Hermaphrodite flower. 4. Three of its stamens. 5. Summit of its style. 6. Bristle of the pappus.

## PLATE 1158.

## CYCLOPHYLLUM DEPLANCHEI, Hook. f.

Rubiaceæ, Tribe VANGUERIEÆ.

*Cyclophyllum*, Hook. f. in *Benth.* and *Hook. f. Gen. Plant.* ii. 535.*C. Deplanchei*, Hook. f. l.c., species unica.HAB. New Caledonia, *Deplanche*, n. 389; *E. Caldwell*.

*Frutex* glaberrimus, ramis teretibus lignosis nodosis, ramulis compressis obscure tetragonis, internodiis brevibus. *Folia* 1-1½-poll. diam., uniformia, decussatim opposita, sessilia v. breviter et crasse petiolata, laxe imbricata, cordato-orbicularia, apice rotundata v. apiculata, crasse coriacea, supra glaberrima nitida, subnervia, subtus exsiccatione undulato-rugulosa, costa lata superne evanida, subtripli. v. quintuplinervia, nervis valde obscuris arcuatis. *Stipulae* latæ, cuspidatae, tarde deciduae, coriaceæ. *Flores* axillares, solitarii, sessiles v. brevissime pedicellati, pedicello apice minute 2-bracteolato. *Calyx* tubus  $\frac{1}{8}$ -poll. longus, oblongus, teres; limbus minutus, 5-dentatus, dentibus triangularibus. *Corolla* hypocramerimorpha, coriacea, tubo  $\frac{1}{2}$ -poll. longo tereti puberulo, intus fauceque villoso; limbus  $\frac{1}{2}$ - $\frac{3}{4}$ -poll. diam., lobis 5 ovato-lanceolatis, acuminatis, valvatis. *Stamina* 5, fauce corollæ inclusa, apicibus exsertis, filamentis brevissimis; antheræ basifixæ, lineariformes, acuminate, loculis basi rotundatis v. paulo divergentibus. *Discus* obscurus. *Ovarium* 2-loculare, crassum, loculis parvis; stylus gracilis, teres, stigmate exerto clavato turbinato vertice dilatato breviter 2-lobo; ovula in loculis solitaria, paulo infra apicem pendula, brevia, funiculo basi incrassato. *Fructus* ignotus.

First communicated to the Kew Herbarium by the late M. Lenormand of Vire, and subsequently by E. Caldwell, who during a mission from Mauritius to obtain the New Caledonian varieties of sugar-cane, formed a valuable collection of plants, which he had the goodness to transmit to me. The valvate aestivation of the corolla, and solitary ovules suspended from near the apex of the cells, places it unquestionably in *Vangerieæ*, but it is not closely allied to any genus of that tribe. Its resemblance to *Izora* is manifest, but superficial.—J. D. HOOKER.

Fig. 1. Flower. 2. Upper portion of tube and limb of corolla laid open. 3. Back and front view of stamens. 4. Vertical section of ovary, with style and stigma. 5. Transverse section of ovary:—all magnified.

## PLATE 1159.

**NOTOPORA SCHOMBURGKIANA, Hook. f.**

Nat. Ord. ERICÆ, Tribe VACCINIEÆ.

**Notopora, Hook. f. gen. nov.** *Calycis tomentosi tubus subglobosus ovario adnatus; limbus ultra ovarium productus, cylindraceus; lobi 5, subæquales, ovato-triangulares, obtusi. Corolla brevis, tubulosa, subinflata, tomentosa, apice 5-loba, lobis triangulari-ovatis obtusis valvatis. Stamina 10, inclusa, tubo corollæ inserta, filamentis distinctis antheris multo brevioribus complanatis glabris; antheræ longe supra medium filamento insertæ, lineari-oblängæ, subquadratae, cartilagineæ; loculi granulosi, in tubulos breves rigidos rectos connatos dorso sub apice rimis dehiscentes producti. Discus annularis, medio depresso, moliter setosus. Ovarium crassum, 5-loculare; stylus filiformis, exsertus, stigmate capitulato; ovula in loculis numerosa, placentis parvis globosis angulo interiore loculi adnatis inserta. Fructus . . . . Frutex ramis lignosis teretibus. Folia alterna, breviter petiolata, elliptico-ovata, sublonge acuminata, integerrima, crasse rigide coriacea, obscure penninervia, supra glabra, nitida, subtus appresso tomentosa rufa v. alba. Flores inter majores, axillares, solitarii v. pauci, breviter pedicellati, dense ferrugineo-tomentosi, pedicello crasso basi bracteato infra florem 2-bracteolato.*

**N. Schomburgkii, Hook. f., species unica.**

HAB. British Guiana, Schomburgk, Nos. 566 (867), 567, 1038.

*Frutex* valde ramosus, ramulis crassitie pennæ corvinæ, cortice atro-fusco minute pustulato. *Folia* 2½-3-pollicaria, valde rigida, basi acuta, marginibus non recurvis, indumento paginæ inferioris laxe v. appresso. *Flores* ¼-poll. longi.

This is the only species of the whole tribe of *Vaccinieæ* in which the stamens are actually inserted high up on the tube of the corolla; in all others, when there is an adhesion, this is rather a mere slight union between the base of the filament and that of the corolla-tube. I know of no genus to which this is at all allied, and Schomburgk's tickets give no information respecting it.—J. D. HOOKER.

Fig. 1. Flower and bracteoles. 2. Corolla laid open. 3. Back and front view of stamens. 4. Vertical section of ovary, with style. 5. Transverse section of ovary: *all magnified*.

## PLATE 1160.

**RIGIOLEPIIS BORNEENSIS, Hook. f.**

Nat. Ord. ERICÆ, Tribe VACCINIEÆ.

**Rigiolepis**, *Hook. f. gen. nov.* *Calycis* limbus ovario adnatus, obconicus, lobis 5 ovatis acutis rigide chartaceis striato-nervosis. *Corolla* urceolata, fere globosa, 5-dentata, dentibus erectis leviter imbricatis. *Stamina* 10, corolla breviora, filamentis basi tubi leviter adnatis brevibus complanatis; antheræ erectæ, tubulis brevibus loculis æquilatis rimis magnis hiantibus antice dehiscentibus, connectivo dorso 2-aristato. *Discus* tumidus, annularis, pubescens. *Ovarium* 10-loculare, septis tenuissimis; stylus columnaris, 5-gonus, superne paullo incrassatus, stigmate truncato simplici; ovula in loculis solitaria, angulo interiori placentis inconspicuus affixa, hilo ventrali. *Fructus* . . . *Frutex* epiphyticus, ramulis teretibus, petiolis et inflorescentia subtus patentim pubescens. *Folia* disticha, breviter petiolata, alterna, ampla, breviter petiolata, elliptica v. oblongo-lanceolata, acuminata, integerrima, valide 5-pinnervia, supra nitida, nervis depressis, subtus reticulatim-venosa inter nervos glaberrima. *Flores* minuti, in racemulos breves alares et extra-ulares dispositi, bracteati et 2-bibracteolati; bracteæ ovatae concavæ, rigide chartaceæ, striato-nervosæ, flores saepe excedentes, demum deciduae; bracteoleæ consimiles sed minores, opposite.

**R. borneensis, Hook. f., species unica.**

HAB. BORNEO, at Sarawak, Lobb.

*Frutex* epiphyticus, 5-10-pedalis, rigidus, fuscescens; ramulis lignosis flexuosis, cortice pustulato. *Folia* 5-7-poll. longa, subcaudato-acuminata, basi subobliqua acuta, 5-tupli-costata, supra nitida nervis insigniter depressis, subtus polita nervis valde elevatis, inter nervulos arcuatos croberrime reticulatim nervulosa, petiolo  $\frac{1}{3}$ -poll. longo, tereti, crasso, tomentello. *Racemi* 1-1 $\frac{1}{2}$ -poll. longi, longe supra-axillares, erecto-patentes, sessiles, puberuli, bracteis caducis imbricati. *Flores* ratione tribus minimi, nutantes. *Calycis* lobi subacuti, ciliolati. *Corolla* vix 1 $\frac{1}{2}$ -poll. longa. *Ovarium* (difficillime scrutatum) ni fallor 10-loculare, sed forsitan 5-loculare loculis 2-ovulatis.

An exceedingly curious plant, quite unlike any other of the tribe, so much so that it was not till fully analysed that I could persuade myself of its really being Vacciniaceous. Though strictly according with this tribe, the colour and texture of the Melastomaceous-like leaf, the curious little extra-axillary racemes, chartaceous imbricating bracts, almost concealing the very minute flowers, all combine to mark its affinities, which are technically with *Gaylussacia*.—J. D. HOOKER.

Fig. 1. Flower and bracteoles. 2. Back and front view of stamens. 3. Vertical section of ovary and calyx with style. 4. Transverse section of ovary: *all magnified*.

## PLATE 1161.

## GUTHRIEA CAPENSIS, H. Bolus.

## PASSIFLOREÆ, Tribe ACHARIEÆ.

*Guthriea*, *Bolus*, *gen. nov.* *Flores* regulares monoici. *MAS.* : *Calycis* tubus 0, segmenta 5 a basi vel fere a basi distincta, linearia, ad medium corollæ adnata, tubum ejusdem superantia. *Corolla* herbacea, venulosa, marcescentia, infundibuli-campanulata, 5-fida; lobis ovato-rotundatis, obtusis, reflexis. *Stamina* 5 ad faucem corollæ inserta, lobis alternantia; filamenta subfiliformia complanata; antheræ exsertæ biloculares ad connectivum crassum adnatæ, introrse. *Fœm.* : *Calyx* maris, segmenta autem corolla dimidio breviora. *Corolla* campanulata breviter et obtuse 5-loba, lobis erectis. Glandes in utroque sexu 5, ad basin corollæ insertæ. *Ovarium* sessile, 1-loculare, multiovulatum; ovula 10-15 a placentis parietalibus 5 pendentia; styli 5 coaliti erecti; stigmata 5 brevia, acuta, canaliculata. *Capsula* inclusa, ellipsoidea, 1-locularis, in valvulis 5 loculicide dehiscens, 8-10-sperma. *Semina* ellipsoidea, testa crustacea brunneo-nigra foveolata, arillo albo tecta; embryo recta in axe albuminis copiosi immersa; radicula supera ad hilum spectans; cotyledones planoconvexæ.

*G. capensis*, H. *Bolus*, species unica.

*HAB.* High mountains with a south to east aspect, near Graaff Reinet, Cape Colony; 4500 to 7000 ft. Fl. April.

Herba acaulis glabra; rhizoma subhorizontalis radices crassiusculas carnosas emittens. Folia radicalia numerosa rosulata petiolata cordato-ovata obtusa crenata, subitus albescens et conspicue reticulatim venosa; lamina  $1\frac{1}{2}$ - $2\frac{1}{2}$ -poll. longa  $2-2\frac{1}{4}$ -poll. lata; petioli crassiusculi semiteretes 1-5-poll. longi. Flores axillares pedunculati, pedunculis folio brevioribus.

This plant, which I have already detected in several localities on the Sneeuberg Mts.—from 4500 ft. on the Oudeberg to 7000 ft. on the Gnadouw Mt. (and on the latter abundant)—seems to have escaped the notice of previous collectors. It comes very near to *Acharia* of Thunberg, which, however, I only know from description. It forms another member of a group of small genera having their head-quarters in South Africa, which have been placed by Mr. Bentham and Dr. Hooker (*Gen. Plant.* i. p. 814) in *Passifloreæ*; but which were ranged by Lindley with *Papayaceæ* between *Cucurbitaceæ* and *Passifloreæ*—an arrangement which Dr. Masters (*Flor. Trop. Africa*, ii. 504) thinks should stand.<sup>1</sup>

<sup>1</sup> This plant offers some points of curious analogy with certain species of *Villarsia* (*Gentianaceæ*).

I have dedicated the genus to my friend Francis Guthrie, Esq., LL.B., Professor of Mathematics, Graf Reinet College, my earliest teacher in botany, and companion in many botanical expeditions; and whose name may be fitly associated with the plant of a district to which he has rendered invaluable educational services.—H. BOLUS.

Fig. 1. Male flower laid open. 2. Female flower. 3. Transverse section of ovary. 4. Capsule with persistent style and corolla. 5. Seed. 6. Same, longitudinally cut through.

## PLATE 1162.

### PLAGIOCARPUS AXILLARIS, Benth.

LEGUMINOSÆ, Tribe GALEGEÆ?

*Plagiocarpus*, Benth. gen. nov. *Calycis* lobi 5, squales, tubo longiores. *Petala* breviter unguiculata, subæquilonga. *Vexillum* late ovatum, basi late subcordatum. *Alæ* liberæ, oblongæ, basi conspicue hinc auriculatæ. *Carina* oblonga, apice obtuso breviter incurvo, petalis basi vix auriculatis. *Stamina* omnia in vaginam supra fissam connata, antheræ subæquales alternæ basifixæ, alternæ versatiles. *Ovarium* subsessile, 1- (v. 2-?) ovulatum; stylus filiformis, glaber, stigmate minuto terminatus. *Legumen* oblique ovatum, turgidulum, valvis coriaceis. *Semen* unicum, ovoidum, strophiolatum. *Suffrutex*. *Foliola* 3-foliata. *Flores* axillares solitarii.

*P. axillaris*, Benth. sp. nov. unica.

HAB. Tropical Australia, Regent's River, Greville Island, &c., north-west coast, A. Cunningham; Port Darwin, Schultz, n. 639.

*Caules* e rhizomate v. basi crassa lignosa erecti, ramosi, foliosi, pedales v. longiores, tenues at duri, pilis appressis mollibus canescentes v. rufescentes. *Stipulae* vix conspicue, inter pilos occultæ v. omnino nullæ. *Foliola* 3 in caule sessilia, petiolo communis nullo, oblongo-elliptica, obtusa, 6-9 lin. longa, membranacea, utrinque pallide virentia, tenuiter pubescentia, pennivenia; versus basin caulinum sèpè solitaria. *Flores* in axillis subsessiles, pedicellis nempe brevissimis sericeis, bracteolas 2 minimis ferentibus. *Calyx* 2½-lin. longus, sericeo-villosulus, lobis acutis tubo paullo longioribus. *Petala* ad 4-lin. longa; alæ more Genistearum transverse rugulosæ. *Legumen* semipollicare, valde obliquum, valvis duris nitidis.

I had long known this plant in Cunningham's collections, and could not refer it to any known genus, but was unable to characterise it for

want of the flowers, which we have now received in Schultz's rich Port Darwin collections. The place, however, in the system is uncertain. The foliage and some other characters indicate an affinity with *Argyrolobium*, but the staminal tube, open along the upper side, is at variance with all Genistee.—G. BENTHAM.

Fig. 1. Flower. 2. Vexillum. 3. One of the wings. 4. Carina. 5. Stamens. 6 and 7. Anthers of the two heads. 8. Pistil. 9. Fruit.

### PLATE 1163.

#### BOLUSIA CAPENSIS, Benth.

##### LEGUMINOSE, Tribe GALEGEAE.

*Bolusia*, Benth. Gen. nov. Calycis profunde 5-fidi lobi subæquilongi, 2 superioribus latioribus approximatis. *Vexillum* latissimum, emarginatum; alæ falcato-ovovatæ, liberæ; carina longe linearis, cum genitalibus spiraliter contorta. *Stamen* vexillare liberum; cætera breviter in vaginam supra fissam connata; antheræ alternae filamentis abbreviatis elongatæ-lineares basifixæ, alternae filamentis multo longiores oblongo-ellipticæ dorsifixæ. *Ovarium* sessile, pluriovulatum. *Style* glaber, stigmate terminali capitato. *Legumen* oblongum, turgidum, polyspermum. *Herba* perennis v. suffruticosa multicaulis, sericeo-pubescentia. *Folia* 1- rarius 3-foliolata. *Pedunculi* oppositifolii uniflori.

##### B. Capensis, Benth., species unica.

HAB. South Africa, between Kuruman and Vaal rivers, on the borders of the Kalahari desert. *J. Cruikshank* (communicated by *H. Bolus*).

*Caules* e basi perenni v. breviter lignosa plures, erecti v. adscendentes, parce ramosi, 1-1½-pedales, appresse sericeo-villosi. *Foliorum* petiolus 2-4-lin. longus, foliolum sèpius unicum, lanceolatum v. fere lineare, 1-2-poll. longum, supra glabrum v. pilis perpaucis conspersum, marginibus nerviformibus cilatis, subtus appresse sericeo-pilosum; adsunt etiam rarius foliola 2 lateralia multo minora, ad apicem (v. paullo infra apicem?) petioli affixa. *Stipulae* oblique cordato-lanceolate, acutissimæ, petiolo paullo v. dimidio breviores. *Pedunculi* sèpius semipolice breviores, primum terminales, mox gemma excrescente oppositifolii, sub calyce bibracteolati. *Calyx* ad 3 lin. longus. *Petala* breviter unguiculata. *Vexillum* calyce paullo longius, longitudine fere duplo latius, concavum, linea mediana dorsali pilosum, cæterum glaberrimum. *Alæ* late falcato-ovovatæ, obtusæ, vexillo sublongiores. *Carina*

gyro triplici contorta, petalis ima basi liberis, cæteram in tubum clausum connatis. *Genitalia* inclusa (v. *styli* apex demum brevissime exsertum?). *Legumen* in speciminiibus adhuc immaturum, 10-11-lin. longum 3-4-lin. diametro, glaberrimum.

The affinities of this interesting plant appear to be the nearest with *Sylitra*. The aspect and calyx are those of an *Argyrolobium*, the pod that of a *Crotalaria*, and the spiral carina, which had induced Mr. Bolus to place it in *Phaseolus*, occurs here and there in various tribes of *Papilionaceæ*.

Fig. 1. Flower. 2. Calyx and pistil. 3. Vexillum. 4. One of the wings. 5. Carina. 6. Stamens. 7. An anther of each description.

## PLATE 1164.

### KOOMPASSIA MALACCENSIS, *Maing.*

LEGUMINOSÆ CESALPINIÆ, Tribe CASSIÆ.

**Koompassia, *Maing.* gen. nov.** *Calycis* tubus discifer subnullus; segmenta 5, subvalvata, herbacea, crassiuscula. *Petala* 5 subæqualia. *Stamina* 5, filamentis brevissime filiformibus, antheræ ovatae, basifixæ; loculis longitudinaliter dehiscentibus. *Ovarium* sessile, 1-ovulatum. *Stylus* brevissime subulatus, stigmate terminali parvo. *Legumen* oblongum, compressum, ala cinctum, indehiscens. *Semen* 1, plano-compressum, exalbinosum; cotyledones plauæ, foliaceaæ; radicula brevis, recta.—*Arbor*. *Folia* impari-pinnata, foliolis alternis. *Flores* parvi, cymulosi, cymulis in paniculas axillares v. terminales dispositi.

***K. malaccensis, *Maing.*, species unica.***

**HAB. Malacca, *Maingay*.**

*Arbor* præalta. Partes novellæ et inflorescentia pube tenuissima ferruginea, rami et folia adulta glabri. *Stipulae* desunt. *Foliorum* petiolum communis 3-5-lin. longus. *Foliola* 5-7, alterna, petiolulata, ovato-lanceolata v. oblonga, acuminata, demum coriacea, nitidula, tenuiter pennivenia et sub lente supra crebre foveolato-reticulata, subtus opaca et pallidiora, in speciminiibus floridæ et fructus juniores ferentibus ad 2 poll. longa, in specimine fructu maturo duplo majora. *Paniculae* in axillis superioribus et ad apices ramorum thyrsoidæ, floribundæ, foliis brevioreis, rhachi pedicellis calycibusque ferrugineo-puberulis. *Bractæ* minutissimæ raræque. *Pedicelli* 1-2-lin. longi. *Calycis* segmenta

crassiuscula ad  $\frac{3}{4}$ -lin. longa. *Petala* glabra, fere lineam longa, oblonga v. obovali-oblonga, basi parum contracta, marginibus aestivatione subinvolutis, apice crispula. *Stamina* petalis dimidio breviora, filamentis etsi filiformia vix  $\frac{1}{4}$ -lin. longis. *Antherarum* connectivum crassiusculum, loculis marginalibus. *Ovarium* petalis multo brevius, subglobosum, pubescens. *Stylus* brevissimus, tenuis, glaber. *Legumen* maturum cum ala 4-5-poll. longum, medio 1-1 $\frac{1}{2}$ -poll. latum, prope basin multo angustius et sepiissime tortum, obscure reticulatum, ala coriacea ultra loculum longiuscule producta. *Semen* plano-compressum, 'testa coriacea, nitida. *Albumen* 0. *Cotyledones* carnosofoliaceæ 5-nerves transverse reticulatæ ad 15-lin. longæ, 6-lin. late, radicula supra recta brevi' (*Maingay*). *Semina* ipse non vidi.

The nearest affinity of this tree is evidently with *Dialium*, from which it differs in the more valvate calyx, the stamens and petals forming normal whorls of five, instead of being reduced to two or fewer, and in the shape of the fruit.

The drawings are taken from Maingay's specimens, distributed under n. 604, in flower with young fruit, but of which he describes the ripe fruit. Another specimen of his, n. 557, has the ripe fruit he describes, but with the leaflets twice the size of those of the other specimens; yet they all probably belong to the same species.—G. BENTHAM.

Fig. 1. Flower. 2. One of the petals. 3. One of the stamens (the filament very incorrectly drawn). 4. Ovary. 5. The same, longitudinal section. 6. Young fruit.

---

## PLATE 1165.

### ACACIA RENIFORMIS, Benth.

LEGUMINOSÆ, Suborder MIMOSÆ.

A. (Vulgares) *reniformis*, Benth. sp. n., glabra, aculeis sparsis, pinnis 1-2-jugis, foliolis 1-jugis oblique orbiculato-subreniformibus, tenuiter coriaceis, spicis laxis cylindraceis, floribus glabris.

HAB. Mexico, banks of the river Mostezuma, near Las Apuntas, Ehrenberg in *Herb. Mus. Berol.*

*Frutex* videtur undique glaberrimus, in sicco glauco-subrubens. Aculei parvi, recti. *Stipulae* rigidule foliaceæ, oblique reniformes, 3-5-lin. latæ, diu persistentes. *Foliorum* petiolus communis tenuis,  $\frac{3}{4}$ -1 $\frac{1}{2}$ -pollicaris, glandulis depresso inter pinnas cujusve paris instructus. *Pinnæ* dum 2-jugæ per paria distantes, rhachibus rigidulis tenuibus,

$\frac{1}{2}$ - $\frac{3}{4}$ -pollicaribus. *Foliola* oblique orbiculata, subdimidiata v. fere remiformia 1-1 $\frac{1}{2}$ -poll. lata, obtusissima, tenuiter at rigide coriacea, flabelato-pluriervia et subreticulato-venulosa, utrinque glaucescentia. *Spicæ* in axillis superioribus v. in racemo brevi terminali sèpius geminæ, pedunculatae, 1-1 $\frac{1}{2}$ -pollicares, laxe floribundæ. *Flores* glaberrimi, breviter pedicellati. *Bractæ* minutæ. *Calyx* campanulatus,  $\frac{1}{2}$  lin. longus, breviter 5-dentatus. *Corolla* late campanulata, alte 5-fida, 1 $\frac{1}{2}$ -1 $\frac{1}{2}$  liu. longa. *Stamina* numerosa, libera, corolla duplo longiora. *Ovarium* stipitatum, glabrum. *Legumen* ignotum.

I have selected this and the following species of *Acacia* for illustration as being both of them of very limited geographical range and quite exceptional in the genus as to foliage, and may, therefore, be reckoned amongst rare races in the course of extinction. I have seen only a single specimen of each.—G. BENTHAM.

Fig. 1. Flower. 2. The same, longitudinal section, showing the free stamens and pistil. 3. Ovary.

## PLATE 1166.

### ACACIA CRASSIFOLIA, A. Gray.

LEGUMINOSÆ, Suborder MIMOSÆ.

A. (Vulgares) *crassifolia*, A. Gray, *Pl. Thurb. in Mem. Amer. Acad.* v. 317, fruticosa, glaucescens, aculeis sparsis subrecurvis, pinnis unijugis, foliolis unijugis cuneato-orbiculatis crasso-coriaceis, capitulis globosis paniculatis, floribus tomentoso-canescens.

HAB. North America, Mexicano-Texan region, in the mountain pass of La Peña, Copahuila, Thurber.

*Frutex* 6-10-pedalis. *Ramuli* rigidi, teretes, glabri. *Aculei* validi, sparsi et hinc inde infrastipulares gemini, recurvo-patentes. *Stipulas* non vidi. *Foliorum* petiolus communis, 4-5 lin. longus, glandula infra pinnas depressa. *Pinnarum* rhaches petiolo sequilongi. *Foliola* 1-1 $\frac{1}{2}$ -pollicaria, sèpius latiora quam longa, apice late rotundata, basi valde inæqualia, flabellato-5-7-nervia et subreticulato-venulosa, glabra, pallide virentia v. glauca. *Panicula* rigida, parce ramosa. *Pedunculi*  $\frac{1}{2}$ -1-pollicares, minute puberuli, supra medium sèpe glanduliferi et obsolete 1-bracteati. *Capitula* globosa, dense multiflora. *Bractæ* parvæ. *Calyx* turbinatus, late 5-dentatus, pubescens, dimidium corollæ superans. *Petala* alte connata, apice extus pubescentia. *Ovarium* breviter stipitatum, glabrum. *Legumen* ignotum.—G. BENTHAM.

Fig. 1. Flower. 2. The same, longitudinal section, showing the free stamens and pistil.

## PLATE 1167.

## CALLIANDRA COLLETIOIDES, Griseb.

## LEGUMINOSÆ, Suborder MIMOSÆ.

*C. colletioides*, Griseb. in *Mem. Amer. Acad. ser. 2*, viii. 180, fruticosa, ramosissima, spinis stipularibus subulatis, foliis minimis, pinnis unijugis, foliolis  $2\frac{1}{2}$ - $3\frac{1}{2}$ -jugis obovatis coriaceis, pedunculis brevissimis, floribus sericeis.

HAB. Eastern Cuba, ravines near Nouvelle Sophie, etc. *Wright*, n. 153.

Frutex 6-8-pedalis, ramosissimus, præster inflorescentiam subglaber, *C. hæmatommati* affinis. *Stipulae* veræ minutissimæ, erectæ, dorso spinam rectam acicularem 2-4-lin. longam patentem ferentes. *Foliorum* petiolus communis  $\frac{1}{2}$  lin. longus, pinnarum rhaches vix longiores. *Foliola* paribus 2-3 cum unico inferiore (intimo paris infimi deficiente), 5 v. 7, ultima sæpius lineam longa, cætera minoræ, obovata, rigide coriacea, obtusissima, glabra, reticulato-pennivenia. *Pedunculi* in axillis superioribus sæpius gemini, 1-1 $\frac{1}{2}$  lin. longi, sericeo-pubescentes. *Capitula* globosa 6-10-flora. *Bractæ* minute, latæ. *Flores* sessiles. *Calyx* campanulatus, striato-multinervis, breviter 5-dentatus, vix semilinea longior, fere glaber. *Corolla* 2-lin. longa, sericeo-villosa. *Stamina* punicea, corolla quadruplo longiora, basi in tubum corollam subæquante coalita. *Legumen* 1-1 $\frac{1}{2}$ -pollicare, acutiusculum, medio 2 $\frac{1}{2}$  lin. latum, supra medium longe angustatum, minute puberulum, marginibus valde incrassatis, valvis dehiscentia elastice revolutis.—G. BENTHAM.

Fig. 1. Flower. 2. Section of the same, showing the pistil. 3. Fruit.

## PLATE 1168.

## PITHECOLOBIUM HYSTRIX, Benth.

## LEGUMINOSÆ, Suborder MIMOSÆ.

*P. (Unguiculata) hystrix*, Benth., glabra, aculeis stipularibus rectis, pinnis unijugis, foliolis 1-jugis obovato-oblongis parvis nitidis.—*Inga hystrix*, A. Rich. *Fl. Cub.* i. 471. *Calliandra hystrix* et *Pithecolobium calliandrasfolium*, Griseb. *Enum. Pl. Cub.* 83.

HAB. Cuba, western districts, *Wright*, n. 2401; near Cabana, *La Sagra*.

VOL. II. THIRD SERIES.

*Frutex* pluripedalis, intricato-ramosissimus, glaber; stipulae spinescentes, tenues, rectae, 2-3-lin. longae. *Foliorum* petiolus communis et pinnarum rhaches tenues, ad lineam longi. *Foliola* 1-3 lin. longa, obtusissima, tenuiter coriacea, rigidula, supra nitida, subtus pallida, pennivenia. *Pedunculi* in axillis superioribus sepius gemini, tenues, 4-6-lin. longa. *Capitula* subglobosa, 6-10-flora. *Flores* sessiles, glabri. *Bracteae* minute. *Calyx*  $\frac{1}{2}$ - $\frac{3}{4}$ -lin. longus, breviter 5-dentatus. *Corolla* rubra, tenuis, 3-3½-lin. longa, apice breviter 5-fida. *Stamina* pallide purpurea, corolla plus duplo longiora, in tubum corollam breviter excedentem coalita. *Antherae* glabrae. *Ovarium* stipitatum. *Legumen* arcuatum v. in annulum pollicem diametro curvatum, glabrum, valvis 3-4-lin. latis ante dehiscentiam planis, demum varie contortis. *Semina* arilla carnosa semi-involuta.—G. BENTHAM.

Fig. 1. Flower. 2. Section of the same, showing the pistil. 3. Fruit. 4. Seed.

## PLATES 1169 and 1170.

### BERNOULLIA FLAMMEA, Oliv.

#### STEREULIACEAE.

*Bernoullia*, Oliv. gen. nov. *Calyx* campanulatus breviter 5-lobatus; lobis deltoideis, aestivatione valvatis. *Petala* 5, columnæ stamineæ adnata, oblonga, calycem superantia, apice revoluta, longitudinaliter venosa. *Columna* staminea exserta, fere ad medianam lateraliter fissa, apice complanata, antherifera; antheræ 15-20, sessiles, ut videtur 2-loculares et arcte biseriatim dispositæ, loculis linearibus, longitudinaliter dehiscentibus. *Ovarium* ovoideum glabrum 5-loculare; loculis  $\infty$ -ovulatis; stylus teretiusculus elongatus glaber e fissura col. staminea exsbertus. *Fructus* (fide cl. Bernoulli) oblongus 5-gonus subindehiscens, 5-locularis. *Semina* indefinita, superiora inferne inferiora superne alata; albumen parcum.

#### B. flammea, Oliv., species unica.

HAB. Not uncommon in the Costa Grande of Guatemala, from about 500 to 2,000 ft.—Dr. G. Bernoulli (Hb. Guatém. 553).

*Arbor* procera, glabra v. ultimis obsolete puberulis. *Folia* alterna, trifoliolata; foliolis petiolulatis ovali-oblongis utrinque acutatis v. apice breviter obtusiuscule acuminatis, integris, glabris, tenuiter coriaceis, nervo medio subtus prominulo, 3-5-poll. longis, 1½-1¾-poll. latis, petiolulus  $\frac{1}{2}$ - $\frac{3}{4}$ -poll., petiolus 2½-3-poll. longus. *Flores* in cymis unilateralibus multifloris racemiformibus paniculatis dispositi; paniculae subterminales; pedunculi complanati glaucescentes faciebus lateralibus

cum cicatricibus bractearum delapsarum oblique notatis; pedicellis  $\frac{1}{2}$ – $\frac{1}{3}$ -poll. longis. *Calyx* puberulus v. glabratus, lobis intus tomentoso-pubescentibus;  $\frac{1}{2}$ – $\frac{1}{3}$ -poll. longus. *Petala* intus plus minus papilloso-pubescentia, glandulis immersis inter venulas ut videtur notata.

Of this remarkable Sterculiaceæ we possess a specimen in flower only, kindly communicated by Dr. G. Bernoulli, who writes that it is a very conspicuous tree in the Costa Grande of Guatemala during the months of November and December, when its 'whole crown is covered with inflorescences of the most splendid scarlet.' From our dried specimen I cannot satisfactorily describe the head of anthers. The fruit is figured from a careful drawing kindly sent by Dr. G. Bernoulli.—  
D. OLIVER.

PLATE 1169.—Fig. 1. Bud. 2. Staminal column from a bud. 3. Flower. 4. Staminal column of same, with adnate petals. 5. Same cut through, exposing the ovary. 6. Transverse section of ovary.

PLATE 1170. Fruit.—Fig. 1. Seed. 2. Section of same:—*Figures on this plate natural size.*

---

### PLATE 1171.

#### MORINA BETONICOIDES, *Benth.*

##### DIPSACEÆ.

**M. betonicoides**, *Benth. sp. n.*, foliis integerrimis lineari-lanceolatis ciliato-subspinosis, capitulo terminali, involucellis truncatis ore longe setoso, corollæ limbo parum inæquali, antheris 4 perfectis subæqualibus.

HAB. Woods of the Sikkim Himalaya, at an elevation of 11,000 to 12,000 feet, *J. D. Hooker.*

*Caules* e basi perenni suberecti, simplices, vix pedales, præster lineam longitudinalem villosam glabri. *Folia* radicalia 2–4-poll. longa, medio 3–4 lin. lata, acuta, margine setis longis rigidis subspinosis ciliata, supra viridia lœvia glabra subavenia, subtus pallida v. albida costa prominula et nervo utrinque uno tenuiore percursa; caulina opposita sessilia pauca radicalibus similia nisi breviora, floralia brevia late lanceolata. *Flores* in capitulum terminalem subglobosum aggregati, additis interdum paucis ad axillas foliorum paris a capitulo parum distantis. *Folia* floralia (seu bractæ) intra capitulum ovata, spinoso-ciliata, concava v. complicata, corolla breviora. *Involucella* sessilia, campanulata, ad 3-lin. longa, membranacea, villosula, ad oram pilis

*branacea* v. *coriacea*, *scabra pennivenia* et *subtransverse venulosa*, *venis primariis subtus prominentibus intra marginem anastomosantibus*, *ultra marginem tamen sepius in denticulos rigidos mucronatos productis*. *Folia ramorum floralium sepius 1-2-pollicaria denticulis parvis distantibus*, *ramorum sterilium nunc multo majora ovato-lanceolata basi truncata acuti-dentata at vix sinuata*, *nunc breviora proportione latiora et profunde sinuata*, *dentibus more *Ilicis* pungenti-acuminatis*. *Florum masculorum cymæ parvæ, subsessiles, laxæ*. *Perianthii segmenta concava, ciliolata*. *Antheræ demum semi-exsertæ*. *Floris fæminei perianthii segmenta angusta*. *Fructus ovoides, acuminatus v. obtusiusculus*, *ad 3 lin. longus*. *Semen fere globosum, testa membranacea*. *Albumen parcum v. 0*. *Embryo involutus, cotyledone exteriore majore interiore obtegente*.

The differences in foliage by which the Australian and the Philippine Island plant were distinguished by Planchon may all be observed in Australian specimens, sometimes on different branches of the same shrub. The two other species described by Planchon are very distinct, *A. aspera* with its regularly serrate membranous leaves and loose male cymes, besides other characters, and *A. cuspidata* with large perfectly entire leaves, &c.—G. BENTHAM.

Fig. 1. Male flower. 2. Female flower. 3. Ovary, longitudinal section: *all enlarged*. 4. Fruit: *natural size*. 5. The same, longitudinal section. 6. Seed. 7. Embryo.

## PLATE 1175.

### PHLEBOCARYA CILIATA, R. Br.

#### AMARYLLIDÆ, Tribe HEMODOREÆ.

*P. ciliata*, *R. Br. Prod. Fl. Nov. Holl.* 301, *foliis planis margine ciliatis, antheris muticis*.—*Benth. Fl. Austral.* vi. 424.

HAB. South-west Australia, *R. Brown* and many others.

*Rhizoma breve, crassum. Folia radicalia e basi lata rigida nigra* vaginante anguste linearia,  $\frac{3}{4}$ —1  $\frac{1}{2}$ -pedalia, 1—2 lin. lata, rigida v. subflaccida, prominule striata, ciliis rigidulis sepius distantibus et interdum vix nisi in foliis junioribus obvius marginata. *Flores* ad 2 lin. longi (flavo-virescentes?), ad axillas bractearum linearium 1—2 lin. longarum breviter pedicellati, in cymulas primum densas 6—12-floras dispositi, cymulis ad apicem scapi foliis breviores plurimis pedunculatis, ramulis demum elongatis inflorescentia tota paniculam laxam format. *Perianthii segmenta lanceolata*, *in vivo patentia*, *in speciminibus siccis*

*omnia erecta conniventia. Filamenta brevissima; antheræ anguste oblongæ, apice obtuse, connectivo ultra loculos hanc producto. Ovarium per anthesin uniloculare, axi tamen centrali filiformi sepe usque ad apicem loculi continuo persistente. Fructus parvus, ovoideus, indehiscens, perianthii segmentis coronatus. Semen sepius unicum, erectum, globosum, testa membranacea, albumine carnos.*

In this, as in the following species, the ovary is probably in its earliest stage 3-celled with one erect ovule in each cell; but at the time of flowering the dissepiments have wholly disappeared, or have left only a very slender central axis and faint remains in the shape of slightly-raised longitudinal lines in the inside of the cavity. I have not seen quite perfect seeds, but in the apparently ripe fruits I have always found only a single obtuse seed, not the three acuminate ones represented on the plate.—G. BENTHAM.

Fig. 1. Flower-bud ready to open. 2. Flower expanded. 3. Ovary, vertical section. 4. Fruit. 5. The same, vertical section, showing, however, all the ovules enlarged instead of only one.

## PLATE 1176.

### PHLEBOCARYA FILIFOLIA, F. Muell.

#### AMARYLLIDÆ, Tribe HÆMODOREÆ.

*P. filifolia, F. Muell.*, foliis filiformi-teretibus glabris, antheris connectivo loculos excedente apiculatis.—Benth. *Fl. Austral.* vi. 425.

HAB. South-west Australia, *Drummond*.

Undique glaberrima, ciliis nullis, cæterum habitu et inflorescentia *P. ciliata* subsimilis. *Foliola* angustissime teretia, majora ultrapedalia. *Panicula* quam in *P. ciliata* sepius laxior, floribus paullo minoribus. *Perianthii* segmenta anguste acuminata. *Antherarum* connectivum in appendiculam loculis longiorem conspicue productum. *Ovarium* plus minus perfecte 3-loculare.

In the few flowers I could examine of this species, I generally found the remains of the dissepiments much more perfect than in *P. ciliata*, although on one occasion they had almost entirely disappeared.—G. BENTHAM.

Fig. 1. End of a leaf. 2. Flower. 3. The same expanded. 4. Stamen. 5. Ovary and style. 6. Section of the ovary.

## PLATE 1177.

HETEROTOMA MACROCENTRON, *Benth.*

CAMPANULACEÆ, Tribe LOBELIEÆ.

*H. macrocentron*, *Benth.*, herbacea, procumbens, ramis breviter ascendentibus, foliis orbiculato-cordatis, corollæ calcare adnato longe cylindraceo.

HAB. Sierra Madre, north-west of Mexico, *Seemann.*

*Herba* videtur pereunis, laxe pilosula. *Caules* tenues, ramosi, procumbentes, apicibus floriferis breviter ascendentibus. *Folia* prope basin ramorum floralium paucæ, petiolata, latissime ovata v. pleraque suborbicularia, margine irregulariter denticulata,  $\frac{1}{2}$ –1 poll. diametro, utrinque breviter pilosula, ad basin pedunculi paucæ parva subsessilia. *Pedunculus* terminalis, cum racemo 3–5-pollicaris, tenuis. *Flores* supra medium pedunculum punci, caerulei, pedicellis filiformibus erectis  $\frac{1}{2}$ –1 $\frac{1}{2}$  pollicaribus fulti, bracteis sub pedicellis parvis minutissive. *Calycis* tubus adnatus obovoideus, fere 1 $\frac{1}{2}$  lin. longus, limbus postice erectus 2 $\frac{1}{2}$  lin. longus, alte 3-fidus, antice in appendicem lineaream corollæ calcari adnatam productus, lobis 2 ab extremitate calcariis inflexo-erectis. *Corolla* lata, ad pollicem longa, calcare cylindraceo, tubo postice ad basin fiso, limboque patente 5-fido inter se subæquilongis. *Stamina* e tubo breviter exserta, filamentis in columnam antice calcari adnatam cæterum liberam connatis; antheræ 2 apice pilis brevibus hirtellæ, cæteræ nudæ.

This species, with a peculiar habit, has neither the large, broad orange-red flowers of *H. lobelioides*, nor the small very short-spurred flowers of *H. tenella* and *H. arabidoides*, all natives of Mexico.—*G. BENTHAM.*

Fig. 1. Flower, enlarged. 2. Stamens. 3. Summit of the style.

## PLATE 1178.

DIALYPETALUM FLORIBUNDUM, *Benth.*

CAMPANULACEÆ, Tribe LOBELIEÆ.

*Dialypetalum*, *Benth.* in *Benth. et Hook. Gen. Pl.* ii. 553.

*D. floribundum*, *Benth.*, *species unica.*

HAB. Madagascar, province Emirna, Bojer ?, Lyall, between Tamavave und Antananarivo, at an elevation of 4,000 feet, in moist places, *Meller.*

*Herba* videtur pube minuta scabriuscula, caule erecto valido pluripedali præster inflorescentiam simplici; pars inferior tamen nobis deest. *Folia* alterna, anguste lanceolata, acuminata, basi in petiolum brevem contracta, 3-6-pollicaria, dentibus parvis interdum fere obsoletis instructa, pennivenia et reticulato-venulosa, venis subtus prominulis; superiora minora gradatim in bracteas abeuntia. *Racemi* v. rami floriferi axillares, simplices v. 2-3-fidi, jam infra medium v. a basi floribundi, inferiores folio subæquilongi, basi foliis brevibus instructi, superiores foliis parvis longiores, præster bracteas aphylli, paniculam thyrsoidem foliatam 1-2-pedalem formantes. *Pedicelli* filiformes, 2-3 lin. longi, ad axillam bracteæ parvæ lineares. *Flores* vix 2 lin. longi, flavo-virescentes. *Calyx* tubus adnatus turbinatus, vix  $\frac{1}{2}$  lineam longus; lobi 5, subæquales, lineari-lanceolati, petalis breviores. *Petala* 5, a basi distincta, anguste oblouga, acutiuscula, 1 $\frac{1}{2}$  lin. longa, inter se subæqualia. *Stamina* petalis paullo breviora, filamenta latiuscula, basi distincta, apice contracta conniventia connataque; antheræ filamentis æquilongæ, 2 vertice minute 1-setæ, cæterum glabræ. *Capsula* fere omnino infera, ovoidea, 1 $\frac{1}{2}$  lin. longa, vertice breviter conico v. convexo inter lobos calycinos petalaque emarcida 2-valvis.—G. BENTHAM.

Fig. 1. Flower. 2. The same, with the calyx-lobes and petals removed, showing the stamens. 3. Single stamen. 4. Pistil. 5. Capsule.

## PLATE 1179.

### AMBLYOCALYX BECCARII, Benth.

APOCYNACEÆ, Tribe PLUMERIEÆ.

*Amblyocalyx*, Benth. in Benth. et Hook. Gen. Pl. ii. 698.

**A. Beccarii**, Benth., *species unica*.

HAR. Sarawak, Borneo, Beccari, n. 1622.

*Frutes* præster inflorescentiam glaber. *Folia* ternatim verticillata, oblonga v. obovali-oblonga, acuminata, basi in petiolum longiusculum contracta, 2-5-pollicaria, integerrima, coriacea, supra nitidula, subtus in sicco badia, pennivenia. *Pedunculi* ad apices ramorum 5-7, in umbellam breviter pedunculatam conferti, 1-2-pollicares, cimas terminales trichotomas floribundas cano-tomentellas ferentes. *Flores* parvi, subsessiles, ebracteati. *Calyx* turbinato-campanulatus, lineam longus, lobis rotundatis tubo brevioribus. *Corolla* ad 2 lin. longa, lobis orbiculatis tubo duplo brevioribus æstivatione contortis (convolutis) dextrorum obtègentibus. *Antheræ* obtusæ, supra medium tubum

filamentis brevisaimis inclusis. *Ovari* carpella 2, basi subconnata et tubo calycino brevissime adnata, ceterum libera. *Stylus* ad altitudinem antherarum attingens, stigmate ovoideo-capitato extus papilloso, apiculo leví brevissimo 2-lobo. *Ovula* in quoque carpello 2, sub apice collateraliter affixa. *Fructus* ignotus.—G. BENTHAM.

Fig. 1. Flower. 2. The same, the corolla cut open, showing the stamens and style. 3. Pistil. 4. Ovary, longitudinal section. 5. The same, transverse section.

## PLATE 1180.

### NOTONERIUM GOSSEI, Benth.

#### APOCYNACEÆ, Tribe PLUMERIÆ.

*Notonerium*, Benth. in Benth. et Hook. Gen. Pl. ii. 698.

*N. Gossei*, Benth., species unica.

HAB. Interior of South Australia, Gosse's *Expedition*, communicated by Dr. Schomburgk, 1874.

*Caulis* in speciminibus plures, erecti, ramosi, tenuis, basi duri, vix semipedales, uti tota planta glabri. *Folia* alterna, anguste linearia, acuta, integerrima, longiora ultra pollicaria, ramealia multo breviora. *Flores* parvi, ad apices ramorum pauci, subcymosi, conferti, pedicellis brevissimis. *Calyx* 5-partitus, segmentis angustis acuminatis linea paullo longioribus. *Corolla* tubus 2 lin. longus, intus superne lineis 5 pilosis instructus; limbus patens, lobis 5 in alabastro induplicato-valvatis acutiusculis lineam longis. *Stamina* prope basin corolla affixa, medio tubo inclusa, filamentis filiformibus basi leviter incrassatis; antheræ lanceolatæ, acuminatæ, circa stigma conniventæ at liberæ, loculis basi obtusis inappendiculatis. *Ovari* carpella 4 (v. 2 bipartita?). *Stylus* filiformis; stigma clavatum et crasse capitatum. *Ovula* in quoque carpello v. loculo solitaria, lateraliter affixa.

It is to be regretted that the few specimens of this very interesting plant were not in a more advanced state, so as to have afforded more certain carpological characters. The ovary in the flower examined appeared to be divided into 4 distinct carpels, but they may possibly have been the moieties of 2 carpels with deep dorsal furrows between the ovules. At any rate, it shows no close affinity to any other known genus, either in character, habit, or station.—G. BENTHAM.

Fig. 1. Flower. 2. The same, the corolla cut open, showing the stamens and pistil. 3. Single stamen.

## PLATE 1181.

PLEIOCARPA MUTICA, *Benth.*

APOCYNACEÆ, Tribe PLUMERIEÆ.

*Pleiocarpa*, *Benth.* in *Benth. et Hook. Gen. Pl.* ii. 699.*P. mutica*, *Benth.*, sp. n., corollæ lobis tubo duplo brevioribus, fructus carpellis parvis ovoideo-globosis muticis.HAB. West tropical Africa, on the Old Calabar River, *Mann*, n. 2277.

*Frutex* 5-pedalis, glaber. *Folia* opposita, breviter petiolata, elliptico-oblonga, breviter acuminata, coriacea, nitida, integerimma, 4-6-pollicaria. *Flores* ad axillas sat numerosi (10-20) nodoso-globerati, arcte sessiles, ebracteati. *Calyx* late campanulatus, lineam latus, 5-partitus, segmentis latis obtusis. *Corollæ* tubus 6-7 lin. longus, tenuiter cylindraceus, superne parum ampliatus; lobi 5, stellato-patentes, vix 3 lin. longi, ovati, obtusi, aestivatione contorti, dextrorsum obtegentes leviter sinistrorum torti. *Antheræ* supra medium subsessiles, oblongo-lanceolatæ, liberae. *Ovari* carpella 5, distincta, 1-2-ovulata. *Stylus* longiusculus, stigmate oblongo. *Fructus* carpella libera, ovoideo-globosa, erostria, vix apice brevissime acuminata v. obtusa, ad 4 lin. longa et vix angustiora, extus undique rugosa, siccitate nigricantia.

The only other genera of *Apocynaceæ* with normally more than two distinct carpels are *Lepinia*, Dcne., from Taiti, and apparently the *Notonerium* figured in the last plate from Australia, both of them very different from *Pleiocarpa* in other characters.—G. BENTHAM.

Fig. 1. Flower. 2. Corolla cut open, showing the stamens and pistil. 3. Pistil. 4. Ovary, transverse section. 5. Fruit (unripe).

## PLATE 1182.

PLEIOCARPA ROSTRATA, *Benth.*

APOCYNACEÆ, Tribe PLUMERIEÆ.

*P. rostrata*, *Benth.*, sp. n., corollæ lobis tubo æquilongis, fructus carpellis ovoideo-oblongis longe rostratis.HAB. West tropical Africa, on the Cameroon River, *Mann*.

*Frutex* 15-pedalis, glaber. *Folia* opposita, breviter petiolata, oval-elliptica, brevissime acuminata, integerrima, coriacea, nitida, 6-8-pollicaria. *Flores* ad axillas pauci, arcte sessiles, ebracteati. *Calyx* campanulatus, lineam longus, alte 5-fidus, lobis acutiusculis. *Corolla* tubus cylindraceus, tenuis, pollicem longus; limbus patens, lobis oblongis, parum obliquis, pollicaribus. *Antheræ* supra medium tubum subsessiles, lanceolatae, acutinasculae, liberae. *Ovari* carpella 3, distincta, singula 4-ovulata. *Stylus* longiusculus, stigmate anguste oblongo. *Fructus* carpella (adhuc immatura) libera, subpatentia, ovoideo-oblonga, pollicaria, in rostrum semipollucare attenuata, carnosula, nigra, grosse tuberoso-rugosa.

We are as yet unacquainted with the ripe fruits or seeds either of this or the preceding species, which alone at present constitute the genus.—G. BENTHAM.

Fig. 1. Corolla cut open, showing the stamens and pistil. 2. Single stamen. 3. Fruit (unripe).

### PLATE 1183.

#### PYCNOBOTRYA NITIDA, Benth.

APOCYNACEÆ, Tribe ECHITIDEÆ.

*Pyenobotrya*, Benth. in Benth. et Hook. Gen. Pl. ii. 715.

*P. nitida*, Benth., species unica.

HAB. West tropical Africa, Mount John River, Mann.

*Frutex* super arbores alte scandens, glaber. *Folia* opposita v. terminatim verticillata, breviter petiolata, oblongo-lanceolata, obtuse acuminata, 2½-3½-pollicaria, coriacea, nitida, integerrima, costa subtus prominula, venis transversis tenuibus crebris parallelis, subtus punctis nigris conspersa. *Flores* parvi, in cymis densis in capitula contractis numerosi, subsessiles, capitulis breviter pedunculatis ad apices ramorum corymbosis v. breviter denseque paniculatis, bracteis minutis v. obsoletis. *Calyx* parvus, 5-fidus, lobis obtusis. *Corolla* tubus brevis subcampanulatus; limbus patens, vix 3 lin. diametro, lobis 5 oblongis aestivatione contortis sinistrorum obtentibus. *Stamina* 5, basi corollæ affixa, filamentis brevissimis latis; antheræ lanceolato-sagittatae, acuminatae, circa stigma conniventia eique medio adhærentes, loculis basi in appendiculas vacuas tenues adnatas extremitate brevissime recurvas productis. *Ovari* carpella 2, distincta, pluri-ovulata. *Stylus* brevissimus, stigmate majusculo subgloboso. *Fructus* ignotus.—G. BENTHAM.

Fig. 1. Flower. 2. Corolla cut open, showing the stamens. 3. Single stamen. 4. Pistil.

## PLATE 1184.

**ZYGODIA AXILLARIS, Benth.**

APOCYNACEÆ, Tribe ECHITIDEÆ.

*Zygodia*, Benth. in Benth. et Hook. Gen. Pl. ii. 716.*Z. axillaris*, Benth., sp. n., ramulis rufo-villosis, foliis ovali-oblongis obtusis v. acutiusculis basi late cordatis.

HAB. West tropical Africa, Old Calabar River, Mann.

*Frutex* 8-10-pedalis, subscandens, divaricato-ramosus, ramulis pilis rufescentibus dense villosis. *Foliu* opposita, ovali-oblonga, 1-1½-pollicaria, a basi fere ad apicem 6-9 lin. lata, glabra v. subtus ad costas hirtella, integerima, pennivenia, petiolo vix linea longiore fulta. *Cymæ* axillares, paucifloræ, pedunculo petiolum vix æquante, bracteis minimis ovatis. *Flores* subsessiles, ad 2 lin. longi. *Calyx* 5-partitus, linea brevior, lobis rotundatis obtusis. *Corolla* campanulata, alte 5-fida, intus glabra, lobis oblongis obtusis leviter dextrorsum obtegentibus. *Stamina* prope basin corollæ affixa, filamentis brevissimis latis; antheræ lanceolato-sagittatae, brevissime acuminatae, circa stigma conniventæ eique medio adhaerentes, loculis basi in appendiculas vacuas breves subrecurvas productis. *Ovuli* carpella 2, villosa, pluri-ovulata. *Stylus* brevis, stigmate ovoideo, apiculo acuto vix 2-lobo. *Fructus* ignotus.

Fig. 1. Flower. 2. Corolla cut open, showing the stamens and pistil. 3. Single stamen. 4. Pistil. 5. Ovary, transverse section.

The genus comprises the two following nearly allied but apparently distinct species:—

*Z. myrtifolia*, Benth., glabra, foliis elliptico-oblongis breviter acutæ acuminatis basi acutiusculis distincte petiolatis, cymis pedunculo petiolo æquilongo fultis, bracteis corollæque lobis acutiusculis.—*Folia* pleraque sesquipollicaria, tenuiora quam in *Z. axillari*. Petioli et pedunculi 1-1½ lin. longi.

HAB. Bagamogo in Zanzibar, Kirk.

*Z. subsessilis*, Benth., glabra, foliis obovali- v. oblongo-ellipticis acute acuminatis, basi obtusis brevissime petiolatis, cymis pedunculo petiolo subdupo longiore fultis, bracteis corollæque lobis obtusiusculis.—*Folia* 2-3-pollicaria. *Flores* fere *Z. axillaris*, pedunculo communi 1-2 lin. longo.

HAB. Congo, Chr. Smith.—G. BENTHAM.

## PLATE 1185.

**MOTANDRA GUINEENSIS, A. DC.****APOCYNACEÆ, Tribe ECHITIDEÆ.****Motandra, A. DC.; Benth. et Hook. Gen. Pl. ii. 715.****M. guineensis, A. DC. Prod. viii. 423, species unica.****HAB.** West tropical Africa, Guinea, Thonning (DC.); Niger River, Barter.

*Frutex* ramis tenuibus subscandentibus uti petioli et inflorescentia tomento rufescente pubescentibus demum glabratibus. *Folia* opposita, breviter petiolata, ovalia v. oblonga, obtuse acuminata, basi rotundata v. subcordata, pleraque 2-3-pollicaria, integerrima, pennivenia, venis primariis costaque subtus prominulis tomentoso-pubescentibus, cæterum glabra. *Flores* parvuli, trichotome cymosi, cymis in paniculam thyrsoidem terminalem floribundam dispositis. *Bractæ* minutæ. *Pedicelli* breves. *Calyx* semilinea paullo longior, obtuse 5-lobus. *Corolla* tubus 2 lin. longus, rectus, superne paullo latior, lobi tubo subdimidio breviores, oblongi, sinistrorum obtegentes. *Stamina* basi corollæ affixa, inclusa, filamentis brevissimis latis; antheræ lanceolato-sagittatae, vix acuminatae, appendice penicillato-pilosa coronatae, circa stigma conniventæ et ei medio adhærentes, loculis basi in appendiculas vacuas extremitate recurvas productis. *Ovarii* carpella 2, multi-ovulata. *Stylus* brevis, stigmate longe oblongo, apiculo 2-fido. *Fructus* ignotus.—G. BENTHAM.

Fig. 1. Bud. 2. Flower. 3. Corolla cut open, showing the stamens and pistil.  
4. Stamens. 5. Single stamen. 6. Pistil.

## PLATE 1186.

**GYMNOLÆMA NEWII, Benth.****ASCLEPIADEÆ, Tribe PERIPLOCEÆ.****Gymnolæma, Benth. in Benth. et Hook. Gen. Pl. ii. 740.****G. Newii, Benth., species unica.****HAB.** East tropical Africa, on Kilimanjaro mountain, C. New.

*F*rutes videtur, an erectus an volubilis e specimine unico haud patet, pube tenuissima ad ramum costamque foliorum conspersus, cæterum glaber. *Folia* opposita, subsessilia, lineari-lanceolata, acute acuminata, integerrima, basi rotundata, ad 3 poll. longa, supra lœviuscula, subtus pallida, costa prominula, venis transversis reticulatisque crebris tenuibus. *Flores* parvi, in cymulas densas in una axilla pedunculatas conferti, pedicellis brevibus, bracteis ovatis acutis pedicello vix brevioribus. *Calyx* vix semilinea longior, campanulatus, sub-5-partitus, segmentis ovatis acutis. *Corolla* tubus latus, calyci subæqualis: lobi duplo longiores, patentes, in alabastro angustissime dextrorsum obtegentes fere valvati. *Corona* 0. *Stamina* basi corollæ affixa, filamentis brevibus latis basi in annulum connatis cæterum liberis; antheræ ovatæ, corolla parum breviores, imberbes, acutæ, apice supra stigma conniventes cohærentesque. *Pollen* granulosum, corpusculis superne oblongis concavis acuminatis applicitum. *Stigma* depresso-conicum, muticum, medio leviter umbonatum. *Pedicelli* fructiferi parum accreti, ad 2 lin. longi. *Folliculi* subteretes, lœves, acuminati, 1½-pollicares. *Semina* oblonga, compressa, apice angustiora, coma tenui haud longa coronata.

This plant is known only from the small but very complete specimen gathered by the late Rev. C. New on his expedition up the Kilimanjaro mountain, and forming part of his small (chiefly fragmentary) collection transmitted to the Kew herbarium through Dr. Kirk. As a genus it is readily distinguished amongst *Periploceæ* by the absence of all corona, without the large appendages to the anthers which distinguish the Javanese and Sumatran genera *Phyllanthera* and *Pentanura*.—G. BENTHAM.

Fig. 1. Flower. 2. Gynostegium. 3. Corpuscle.

## PLATE 1187.

### ECTADIOPSIS NIGRITANA, Benth.

#### ASCLEPIADEÆ, Tribe PERIPLOCEÆ.

*Ectadiopsis*, Benth. in Benth. et Hook. Gen. Pl. ii. 741.

*E. nigritana*, Benth., sp. nov., foliis anguste lanceolatis, cymis laxiusculis multifloris.

HAB. West tropical Africa, Nupe on the Niger River, Barter.

*Caules* (e basi lignosa?) herbacei, erecti, 4-pedales, ramis virgatis glabris. *Folia* opposita, subsessilia, anguste lanceolata, acutiuscula, integerrima, basi contracta, 2-3-pollicaria, supra lœvia, subtus pallida,

costa parum prominente, venis tenuissime reticulatis, floralia multo minora, in bracteas abeuntia. *Cymæ laxiusculæ*, in una axilla foliorum floralium sessiles, nodis floriferis ad apices ramorum distantibus. *Flores* parvi, breviter pedicellati, bracteis angustis acutis pedicello brevioribus. *Calyx* vix lineam longua, segmentis ovatis basi intus glandulis 5 segmentis alternis instructus. *Corolla* tubus calycem vix sequans; lobi duplo saltem longiores, anguste oblongi, anguste dextrorsum obtengentes. *Corona* squamæ 5, medio tubo corollæ affixa, brevissime clavatae. *Stamina* basi corollæ affixa, filamentis basi in annulum connatis superne brevissime discretis; antheræ ovatae, breviter acuminate, imberbes, in conum stigma obtengentem connatae. *Pollen* granulosum, corpusculis parvis linearibus vix apice latioribus applicitum. *Fructus* ignotus.

The genus comprises also the *Ectadium oblongifolium*, Meissn., from Natal land, with much shorter and broader leaves and usually much fewer flowers in closer cymes, and apparently a third species, nearly allied to the Niger one, gathered in Zambesi land by Dr. Kirk.—  
G. BENTHAM.

Fig. 1. Bud. 2. Corolla cut open, showing the coronal scales and gynostegium. 3. Anthers, seen from the back. 4. Pistil. The reticulation of the leaves too strongly represented.

## PLATE 1188.

### AMBLYSTIGMA HYPOLEUCUM, Benth.

ASCLEPIADEÆ, Tribe CYNANCHEÆ.

*Amblystigma*, Benth. in Benth. et Hook. Gen. Pl. ii. 748.

**A. hypoleucum**, Benth., sp. nov., foliis cordato-lanceolatis subtus lana densa candida tomentosis, pedunculis petiolo subæquilongis.

HAB. Bolivia, Bridges.

*Caulæ* volubiles, novelli tomentosi, demum glabri. *Folia* opposita, latiusculæ lanceolato-cordata, acutiusculæ, integerrima, auriculis basæ rotundatis, 2-3 poll. longa,  $\frac{1}{2}$ -1 poll. lata, crassiusculæ, supra glabra, subtus lana brevi sed densa alba vestita, petiolo  $\frac{1}{2}$ -1 poll. longo. *Cymæ* in una axilla pedunculo  $\frac{1}{2}$ -1-pollicari fultæ, laxiusculæ, bracteis minimis angustis, pedicellis calyci subæquilongis. *Calycis* segmenta linearia, 3 lin. longa, tomentosa. *Corolla* calycem parum excedens, latiusculæ campanulata, lobis patentibus latis tubo duplo brevioribus. *Corona* 0. *Stamina* prope basin tubi affixa, filamentis in tubum brevissimum connatis; antheræ basi subariculatae, medio dorso leviter incrassatae, membrana inflexa terminatae. *Pollinia* in quoque

oculo solitaria, longiuscula, ab apice attenuato caudicula longa pen-  
lula. *Stigma* late umbonatum, erostre. *Fructus* ignotus.

A second species, which, however, may possibly prove to be a luxuri-  
ant large-flowered variety, is in Mandon's Bolivian collection, and  
may be thus distinguished:—

**A. pedunculare**, *Benth.*, foliis late cordato-lanceolatis subtus tenui-  
ter tomentoso-pubescentibus, pedunculis petiolo duplo longioribus.—  
Folia quam in *A. hypoleuca* tenuiora majoraque. Flores majores. Calycis  
segmenta linearia,  $4-4\frac{1}{2}$  lin. longa. Corolla semipollicaris, lobis tubo  
quadruplo brevioribus.

HAB. Bolivia, prov. Larecaja, in the Cerro Iminapi, near Sorata,  
*Mandon*, n. 353.—G. BENTHAM.

Fig. 1. Flower. 2. The same, the corolla removed, showing the gynostegium.  
3. Pollen-masses. 4. Stigma.

## PLATE 1189.

### RHYNCHOSTIGMA RACEMOSUM, *Benth.*

ASCOLEPIADEÆ, Tribe MAESDENIEÆ.

**Rhynchosigma**, *Benth.* in *Benth. et Hook. Gen. Pl.* ii. 771.

**R. racemosum**, *Benth.*, sp. nov., glaberrimum, foliis oblongis acumi-  
natis, cymis 2-4-floris plerisque in racemo axillari elongato aphylo v.  
vix basi foliato dissitis, coronæ squamis linearis-clavatis crassiusculis.

HAB. West tropical Africa, Cameroons Mountain, at an elevation  
of 4,500 feet, *Mann*.

*Frutes*? volubilis, alte scandens, glaberrimus. *Folia* oblonga v.  
oblongo-elliptica, longiuscula acuminata, integerrima, basi rotundata v.  
cuneata, 3-4-pollicaria, coriacea, nitida, petiolo 5-9 lin. longo. *Cymæ*  
sæpius 2-floræ rarius 3-4-floræ, nunc in una axilla solitariæ breviter  
pedunculatae, nunc secus ramulum aphyllum dissitæ racemum formantes  
axillarem folio breviorem v. rarius longiore basique foliatum. *Flores*  
nutantes, pedicellis recurvis 2-3 lin. longis; bractæ minutissimæ.  
*Calycis* segmenta vix lineam longa. *Corollæ* tubus turbinatus,  $2\frac{1}{2}$  lin.  
longus; lobi linearis-oblungi, patentes, tubo æquilongi. *Coronæ* squamæ  
5, basi tubo stamineo adnatæ, apice liberæ, erectæ, linearis-clavatæ,  
obtuse, crassiusculæ, anthera subdupo longiores. *Stamina* basi  
corollæ affixa, filamentis basi in annulum connatis superne breviter  
discretis; antheræ breves, membrana inflexa stigmati arcte appressa  
terminatæ. *Pollinia* in quoque loculo solitaria, parva, ovoidea, erecta,

candidulis brevissimis corpusculo parvo affixa. *Stigma* crassum, inter antheras obovoideum, in rostrum obtusum contortum squamis coronæ duplo longius productum. *Fructus* ignotus.

Fig. 1. Flower. 2. Corolla cut open, showing the coronal scales and gynostegium. 3. Pollen-masses. 4. Pistil.

We have two other species of the same genus, both from West tropical Africa.

*R. brevipes*, Benth., minute tomentellum v. glabratum, foliis ovali-ellipticis breviter et acute acuminatis, cymis plurifloris ad axillas sessilibus, coronæ squamis alte adnatis apice liberis rotundato-spathulatis. Folia 2-3-pollicaria, coriacea at vix nitida. Cymæ breviter 2-fidæ, ramis 5-7-floris. Corollæ ad 3 lin. longæ, albæ.

HAB. Banks of the Nun River, *Mann.*

*R. parviflorum*, Benth., glabrum, foliis oblongo-ellipticis obtusiusculis, cymis plurifloris ad axillas sessilibus, coronæ squamis basi tantum adnatis ligulatis acuminatis.

HAB. Gaboon River, *Mann.*—G. BENTHAM.

---

## PLATE 1190.

### SPHEROCODON OBTUSIFOLIUM, Benth.

ASCLEPIADEÆ, Tribe MARSDENIÆ.

*Sphaerocodon*, Benth. in Benth. et Hook. Gen. Pl. ii. 772.

*S. obtusifolium*, Benth., sp. n., foliis ovatis v. ovali-oblongis obtusis v. vix mucronatis, corollæ lobis conniventibus.

HAB. South-east tropical Africa, Shire River, near Miramballa, *Kirk.*

*Caules* e basi sublignosa procumbentes ascendentes v. flexuosi, in speciminiibus 1-2-pedales, duri, tomento minuto pubescentes. *Folia* opposita, breviter petiolata, inferiora late ovalia obtusissima, superiora angustiora brevissime mucronulata 1½-2½-pollicaria, integerrima, flaccida submembranacea, supra glabriuscula, subtus pube minuta pallida. *Cymæ* plurifloræ, in una axilla pedunculo 3-6 lin. longo fultæ, bracteis minutis. *Calycis* segmenta linearia, vix 1½ lin. longa. *Corolla* globosa, 3 lin. diametro, semi-5-fida, lobis latis dextrorsum obtengentibus. *Coronæ* squamæ 5, tubo stamineo adnatae, prominenter glanduliformes.

*Stamina* basi corollæ affixa, filamentis in tubum antheris angustiorem connatis; anthers erectæ, obtusæ, subtruncatae, lateraliter utrinque peltato-auriculatae. *Pollinia* in quoque loculo solitaria, erecta, caudulis minimis. *Stigma* vertice planum, 5-angulatum.

Although in many respects allied to *Marsdenia*, this genus appears quite distinct from the peculiar shape of the corolla, the absence of the terminal membrane of the anther, and from the apparent absence of the pollen-bearing corpuscles, at least in the flowers I examined, although the artist has figured one of at least an ordinary size. The artist has also by mistake figured the corolla-lobes as overlapping to the left instead of to the right.

Fig. 1. Bud (the twist reversed). 2. Flower. 3. Gynostegium. 4. Pollen-masses (the corpuscle connecting them perhaps incorrect). 5. Calyx and pistil.

An apparently distinct second species has been received from W. G. Gerrard from Natal, which may be thus characterised:—

*S. natalense*, Benth., foliis ovali-oblongis acutiusculis, corolla lobis per anthesin apertis late campanulata. Pubes quam in *S. obtusifolium* evidentior, coronæ squamæ magis prominentes, a latere compressæ.—  
G. BENTHAM.

## PLATE 1191.

### OIANTHUS URCEOOLATUS, Benth.

ASCLEPIADEÆ, Tribe MARDENIEÆ.

*Oianthus*, Benth. in Benth. et Hook. Gen. Pl. ii. 775.

*O. urceolatus*, Benth., species unica (*Heterostemma urceolatum*, Dalz. in Hook. Kew Journ. iv. 295).

HAB. East Indian Peninsula, Belgaum and hills to the north, rare, Dalzell.

*Suffrutex* volubilis, glaber v. ramulis minute puberulis. *Folia* opposita, breviter petiolata, ovata v. ovato-lanceolata, acuta, integerrima, basi late subcordata, 3-5-nervia, 3-4-pollicaria. *Cymæ* paucifloræ, confertæ, in una axilla sessiles v. brevissime pedunculatae. *Corolla* ovoido-urceolata, purpureo-rubescens, 9-10 lin. longa, basi ventricosa, apice contracta, 5-fida, lobis brevibus latis anguste dextrorsum obtegentibus. *Corona* tubo stamineo affixa, late cyathiformis, gynostegium superans, carnosula, apice patentissima, late 5-loba et irregulariter dentata, dente terminali cujusque lobi introflexo. *Stamina* basi corollæ affixa, filamentis in tubum brevissimum connatis; an-

theræ breves, apice inflexæ, membrana parva terminata. *Pollinia* ii quoque loculo solitaria, obovoidea, ascendentia. *Stigma* vertice depresso. *Fructus* ignotus.

Mr. Dalzell referred this plant to *Heterostemma*, as differing from that genus in no respect except as to the form of the corolla. That however, is very remarkable; and the corona appears to me also much nearer that of *Asterostemma* than of *Heterostemma*. It is a question however, whether the three genera might not be united, if a further general consolidation of Asclepiadaceous genera be thought desirable.—  
G. BENTHAM.

Fig. 1. Corolla. 2. Gynostegium. 3. The same, seen from above. 4. Pollen-masses. 5. Ovaries slightly enlarged after the fall of the stigma.

## PLATE 1192.

### LYSIDICE RHODOSTEGIA, Hance.

#### LEGUMINOSÆ, § CESALPINIÆ.

*L. rhodostegia*, Hance in Seem. Journ. Bot. 1867, p. 299, *species unica*.

HAB. Southern China, on the West River, T. Sampson (No. 12155, Herb. Hance).

*Frutes glaber. Folia alterna, abrupte pinnata, foliolis 3-4(-6)-jugis tenuiter coriaceis breviter petiolulatis oblongo-ellipticis breviter acuminate basi rotundatis, inferiora 2½-4½, superiora 4-6 poll. longa. Stipulae parvæ subulatae. Flores racemosi, racemis in paniculis terminalibus ½-1 ped. longis dispositi; pedicelli puberuli, basi bracteis coloratis æquilongis ovato-ellipticis suffulti. Calyx basi 2-bracteolatus, bracteolæ parvæ oblongæ v. lanceolatae; tubo cylindrico sursum ampliato, limbo 4-partito lacinia imbricatis sub anthesi reflexis oblongo-ellipticis obtusis, lobo postico latiore. Petala 3, æstivatione convolutiva (1 posticum, 2 lateralia), subæquilonga longe ungniculata lamina obovato-rotundata; petala 2 antica rudimentaria minutissima. Stamina antherifera 2 lateralia, filamentis elongatis glabris, antheris ellipticis dorsifixis; stamina 2 postica filiformia antheris cassis, antica rudimentaria subulata inæqualia. Ovarium breviter stipitatum compressum pilosulum 9-12-ovulatum; stylus laxus in alabastro circinatus; stigma terminale. Legumen ob lanceolato-oblongum planum apice apiculatum, 6-7 poll. longum 1½ poll. latum, valvis coriaceo-lignosis lævibus. Semina compressa, radicula recta.*

Referred by Dr. Hance to the tribe *Amherstieæ*, near to the tropical American genus *Heterostemon*. The petals are remarkable in their onvolute aestivation.—D. OLIVER.

Fig. 1. Flower. 2. Ovary. 3. Longitudinal section of same. 4. Legume.  
5. Seed.

---

### PLATE 1193.

#### HIRTELLA ZANZIBARICA, Oliv.

ROSACEÆ, § CHRYSOBALANÆ.

*H. zanzibarica*, Oliv., foliis nitentibus oblongo- v. ovato-ellipticis breviter obtuse acuminatis basi rotundatis saepe emarginatis subcordatisve, paniculis terminalibus dense ramosis hirtis multifloris bracteatis, bracteis parvis margine glandulosis, calycis lobis tubo subæquiformi longis, staminibus 8-9 antheriferis liberis.

HAB. Mafia Island, East tropical Africa, Dr. Kirk.

*Ramuli teretes glabri. Folia alterna breviter petiolata coriacea subtus præcipue in nervo medio obsolete pubescentia, 2½-3½ poll. longa, ¼-1½ poll. lata. Panicula densa folia superans; bracteæ saepe geminatae rotundatae margine glandulis pedicellatis inæquilongis onustæ; pedicelli breves. Calyx pubescens, lobis exterioribus plus minus glanduloso-marginatis. Petala calycem æquantia concava late elliptica. Stamina unilateralia a basi libera glabra; anthere late v. quadrato-ellipticae dorso affixa. Ovarium dense pilosum 1-loculare, 2-ovulatum. Fructus ovoides obtusus basi abrupte angustatus 1-spermus, pericarpio coriaceo intus molliter tomentoso, ¾-1 poll. longus.*—D. OLIVER.

Fig. 1. Flower. 2. Same, calyx-tube laid open. 3. Petal. 4. Stamens. 5. Section of ovary. 6. Fruit. 7. Section of same. 8 and 9. Embryo.

---

### PLATE 1194.

#### SYNAPTOLEPIS ALTERNIFOLIA, Oliv.

THYMELACEÆ, § GNIDIEÆ.

*S. alternifolia*, Oliv., glabra, foliis alternis ovalibus obtusis v. obtusiusculis basi plus minus cuneatis vix rotundatis, floribus in cymulis pedunculatis paucifloris saepe terminalibus dispositis.

HAB. Kilwa, East tropical Africa, Dr. Kirk.

*Ramuli graciles ascendentes teretes glabri. Folia subcoriacea mucronulata, subtus nervo marginali notata,  $\frac{3}{4}$ - $1\frac{1}{2}$  poll. longa, 4-7 lin. lata; petiolus 1 lin. longus. Pedicelli apice articulati  $\frac{1}{2}$ - $\frac{1}{3}$  poll. longi. Flores  $\frac{1}{2}$ - $\frac{3}{4}$  poll. longi. Perianthium lobis ovatis v. ovato-ellipticis obtusis late imbricatis, squamulis faucis facile in lobos segregatis, margine setuloso-hispidis.*—D. OLIVER.

Fig. 1. Flower. 2. Perianth laid open. 3. Stamens. 4. Pistil, with vertical section of ovary.

## PLATE 1195.

### PLOCOSPERMA BUXIFOLIUM, Benth.

LOGANIACEÆ, Tribe GELSEMIÆ.

*Plocosperma*, Benth. in Benth. et Hook. Gen. Pl. ii. 789.

*P. buxifolium*, Benth., species unica.

HAB. Guatemala, Skinner.

*Frutex* glaber, ramis rigidis elongatis. *Folia* opposita, brevissime petiolata, ovata v. oblonga, utrinque obtusa, integerrima, coriacea, supra nitida, subtus opaca, costa prominente,  $\frac{1}{2}$ -1-pollicaria, iis *Buxi sempervirentis* subsimilia. *Flores* in nodis axillaribus ramorum annotonorum v. vetustiorum 2-4-ni in pedunculo brevissimo subracemosi v. interdum solitarii, pedicellis 1-2 lin. longis filiformibus ebracteatis. *Calyx* lineam longus, 5-partitus. *Corolla* tubo brevi subinfundibulari campanulata, expansa fere pollicem diametro, lobis 5 latis imbricatis. *Stamina* 5, inæqualia, corolla breviora; antherarum loculi paralleli. *Ovarium* 1-loculare, basi in stipitem brevem crassum subcontractum, apice desinens in stylum filiformem apice bis 2-fidum, ramulis ultimis intus stigmatosis; ovula 4, per paria parietibus affixa, 2 inferiora erecta, 2 superiora pendula. *Capsula* linearis, subteres, 3-pollicaris, coriacea, tenuiter co-costata sulcataque, ab apice 2-valvis, valva quaque evulum unum cujusque paris ferente. *Semen* tamen in capsula unicum perfectum, lineare, 2-pollicare, subteres v. compressum, apice coma densa brevique pilorum appendiculatum; testa subcoriacea; albumen tenuiter carnosum; embryo linearis, perfectus tamen ignotus.

The fruit and seed of this plant are exceptional in the order, but the corolla, stamens, and style are very nearly those of *Gelsemium*, only shorter.—G. BENTHAM.

Fig. 1. Flower. 2. Corolla cut open, showing the stamens and pistil. 3. Pistil. 4. Ovary, longitudinal section. 5. Capsule and seed.

## PLATE 1196.

## MOSTUEA SURINAMENSIS, Benth.

LOGANIACEAE, Tribe GELSEMIÆ.

*Mostuea*, Didr. ; Benth. et Hook. Gen. Pl. ii. 789.

**M. surinamensis**, Benth., sp. nov., foliis brevissime petiolatis oblongo-ellipticis acuminatis, cymis laxis pedunculatis, corollæ parvæ limbo tubo subtripli breviore.

HAB. Surinam, Hostmann, n. 1128.

*Frutex* glaberrimus, ramis tenuibus. *Folia* opposita, breviter et acute acuminata, basi cuneata, integerrima, membranacea, 2-4-pinnata, venis paucis tenuibus. *Cymæ* ad apices ramorum v. in una axilla folio parum breviores, longiuscule pedunculatæ, dichotomæ, ramis filiformibus, bracteis minutis. *Flores* in dichotomiis sessiles v. ramulos ultimos pedicelliformes terminantes, albi. *Calyx* vix  $\frac{1}{2}$  lin. longus, alte 5-fidus. *Corolla* 2½ lin. longa, tubo superne ampliato, limbi lobi 5, patentæ, æquales, imbricati. *Stamina* infra medium tubum affixa, inclusa, filamentis brevibus; antheræ ovatae, loculis subparallelis. *Ovarium* 2-loculare, ovulis in quoque loculo 2 collateralibus; stylus apice breviter 2-fidus, ramis late cuneatis 2-fidis superne stigmatosis. *Capsula* compressa, divaricato-2-loba, lobis oblongo-quadratis fere semipollicem longis, ad margins in valvas 2 dehiscentibus. *Semina* in quoque loculo solitaria, compressa, late ovata fere lenticularia, exalata, basifixa. *Embryo* rectus, in axi albuminis copiosi carnosæ eo dimidio brevior; cotyledones angustæ, radicula brevis, infera.

The two, or perhaps three, species of this genus from West tropical Africa include the *Mostuea* (*Leptocladus*) *Thomsoni*, Oliv. in Journ. Linn. Soc. viii. 160, t. 12, which in its lax inflorescence comes nearer to the Surinam species than Didrichsen's original type. It has, however, much smaller leaves and larger flowers.—G. BENTHAM.

Fig. 1. Flower. 2. Corolla cut open, showing the stamens. 3. Calyx and pistil. 4. Ovary, longitudinal section. 5. Fruit. 6. The same, one lobe open, showing the seeds.

## PLATE 1197.

**BROOKEA DASYANTHA, Benth.**

## SCROPHULARIINÆ, Tribe CHELONEÆ.

*Brookea, Benth. in Benth. et Hook. Gen. Pl. ii. 939.*

**B. dasyantha, Benth., sp. nov.**, ramulis inflorescentiaque pilis longis mollibus dense villosissimis, corollæ tubo calyce fere duplo longiore.

HAB. Sarawak, Borneo, Lobb, Beccari, n. 1145 and 3203.

*Frutex* videtur, ramulis validis pilis longis mollibus rufescens seri- ceis densissime vestitis. *Folia* opposita, ovata v. superiora angustiora, acuminate, denticulata, basi contracta et in petiolum brevem decur- rentia, semipedalia et longiora, crassiuscula, supra viridia scabriuscula et venulis reticulatis impressis rugosa, subtus dense cano-tomentosa costa venisque primariis pinnatis villosis. *Spicæ* in dichotomiis v. inter folia ultima sessiles v. breviter pedunculatae, 3-5-pollicares, rhachi calycibusque dense villosissimis. *Flores* oppositi v. sparsi, subsessiles, ad axillam bracteæ reflexæ persistentis 3-5 lin. longe. *Calyx* sub anthesi 7-8 lin. longus, oblongo-tubulosus, 4-5-dentatus, fructifer pollicaris, ampliatus ore contracto. *Corolla* tubus cylindraceus, superne ampliatus, leviter incurvus, pollicaris v. paullo longior, limbus oblique expansus, ad 9 lin. diametro, lobis 5 rotundatis 2 posti- cis exterioribus. *Stamina* 4, didynama, prope basin corollæ affixa, tubo paullo breviora; antherarum loculi divergentes demum divaricati, apice subconfluentes, staminis postici rudimentum 0. *Ovarium* 2-loculare, ovulis in placentis prominulis numerosissimis. *Style* apice breviter lateque 2-lamellatus. *Capsula* ovoidea, calyce subclauso in- clusa, glabra, septicide dehiscens. *Semina* minuta, subglobosa, pla- centas densissime obtentia.

The genus has some general resemblance to the Central American *Uroskinnera*, but readily distinguished by the absence of the upper staminodium and the septicidal not loculicidal dehiscence of the capsule. A second species (*B. tomentosa*, Benth.) was gathered also in Sarawak by Lobb, very nearly allied to *B. dasyantha*, but with the indumentum of the branches and inflorescence shortly tomentose, the leaves velvety on the upper side and scarcely white underneath, less decurrent on the longer petiole, the calyx smaller, and the corolla-tube less exserted. Said to be a shrub of 10 feet, with white flowers.—  
G. BENTHAM.

Fig. 1. Bud. 2. Flower. 3. Corolla cut open, showing the stamens. 4. Anther. 5. Pistil. 6. Ovary, transverse section.

## PLATE 1198.

MONOPYLE MACROCARPA, *Benth. var.*

GESNERACEÆ, Tribe GESNEREEÆ.

*Monopyle*, *Benth.* in *Benth. et Hook. Gen. Pl.* ii. 997.

**M.** *macrocarpa*, *Benth.*, *sp. nov.*, folio majore cujusque paris rarius utroque longiuscule petiolato oblongo-elliptico acuminato basi valde inæquali, floribus longe pedicellatis ad axillas v. in pedunculo terminali fasciculatis, calycis lobis longiuscule linearibus, tubo basi vix obtuso fructifero oblongo-lineari.

Var. *isophylla*, foliis cujusque paris parum inæqualibus.

HAB. The typical form in Eastern Peru on rocky streams near Tarapoto, *Spruce*, n. 4151, and the variety here figured, at the foot of Mount Chimboracó, *Spruce*, a single specimen.

*Herba* e radice repente ascendens v. laxe erecta, parum ramosa, 1-3. pedalis, pubescens. *Folia* in forma typica pleraque valde disparia, maximum oblongo-ellipticum, acuminatum, obtuse serratum, basi valde inæquale, subsemipedale, supra virens scabrinulum, subtus subrubescens molliter pubescens, petiolo semipollicari v. longiore fultum, opposito minimo lanceolato stipuliformi; adsunt tamen hinc inde paria minus inæqualia et in forma delineata pleraque (nec omnia) subæqualia. *Flores* in specimine delineato in una axilla 2-4-ni, pedunculo communi brevissimo, in forma typica pedunculo communi terminali fulti, pedicellis per anthesin vix semipollicaribus, post anthesin elongatis. *Bractæ* ad basin pedicellorum parvæ. *Calycis* tubus omnino adnatus, sub anthesi obovoideus, basi acutus v. vix obtusus, vix 2 lin. longus, cano-pubescent, post anthesin valde elongatus; lobii 5, lineares, 3-4 lin. longi. *Corolla* albida superne pallide violacea; tubus subpollicaris, latus, superne ampliatus fere campanulatus; limbus oblique patens, pollicem diametro, lobis 5 latis, 3 posticis paullo altius connatis antico cæteris majore. *Stamina* 4, didynama, ima basi corollæ affixa, inclusa, cum rudimento minimo staminis quinti postici; filamenta filiformia arcuata; antheræ conniventes non tamen cohærentes, loculis subglobosis divergentibus. *Ovarium* inferum, vertice brevissime conicum; stylus brevis, apice stigmatoso vix dilatato. *Capsula* infera, oblongo-linearis, curvula, subpollicaris, calycis lobis haud accretis coronata, vertice inter lobos parvo indiviso, dorso infra lobos rima longitudinali dehiscens. *Semina* ut in tota tribu numerosa minima.

I do not feel certain that the two plants from rather distant stations which I have united under the above name are strictly conspecific,

though I believe them to be so. In the typical form from Tarapoto the larger leaf of each pair is about 6 inches long, the smaller opposite one sessile, or nearly so, and  $\frac{1}{2}$  to  $\frac{1}{3}$  inch; but one of these specimens bears also two pairs of leaves more like those represented in the plate. The specimens from which the artist made his general outline have most of the leaves 3 to 4 inches long, and nearly equal in each pair, but these also have two or three of their pairs almost as unequal as in the typical form.

Fig. 1. Flower. 2. Corolla cut open, showing the stamens. 3. Stamens. 4. Anther. 5. Fruit.

The genus evidently comprises several species, of which the following, as far as can be judged from herbarium specimens, appear to be perfectly distinct:—

2. *M. macrophylla*, Benth., folio majore cujusque paris longiuscule petiolato ovali- v. oblongo-elliptico longe acuminato basi valde inaequali, floribus longe pedicellatis, fasciculis oppositis 2-floris per paria secus pedunculum longum dissitis, calycis tubo post anthesin breviter oblongo basi postice gibbo, lobis longiuscule linearibus.—Folia majora 8-10-pollicaria, opposito 1-2-pollicari. Corollæ (violaceæ ?) ventri- coso-campanulatae, ad 9 lin. longæ.

HAB. Columbia, Lobb.

3. *M. subsessilis*, Benth., folio majore cujusque paris subsessili oblongo- elliptico acuminato basi inaequaliter contracto, opposito nano, floribus brevissime pedicellatis, fasciculis oppositis 2-3-floris in pedunculo terminali geminis v. per paria dissitis, calycis tubo fructifero oblongo subæquali lobis longiusculis linearis-lanceolatis.—Folia majora 6-10- pollicaria. Calycis tubus per anthesin  $1\frac{1}{2}$  lin. fructifer 3-4-lin. longus, lobi quam in ceteris speciebus latiores, 3-4 lin. longi, in calyce fructi- fero immutati. Corolla campanulata,  $1\frac{1}{2}$  poll. longa, violacea basi sola pallescens.

HAB. Tarapoto, with the *M. macrocarpa*, Spruce, n. 4151\*. Besides the above-mentioned characters, the stamens appear to be shorter, and the stigmatic apex of the style shortly 2-lobed.

A specimen from Costa Rica, Endres, evidently allied to the three preceding species, does not precisely agree with either, but is insufficient for accurate determination.

4. *M. paniculata*, Benth., folio majore cujusque paris petiolato ovato- oblongo acuminato basi valde inaequali, opposito parvo v. nano, cymis laxis pedunculatis in panicula laxa terminali divaricatis, calycis tubo brevi postice gibbo, fructifero . . . . lobis breviter linearibus.—Herba 4-pedalis. Folia majora 6-8-pollicaria. Paniculæ rami oppositi tenues distantes divaricati, cymæ dichotomæ plurifloræ, pedicellis 2-3 lin. longis. Corolla subcampanulata, ad 9 lin. longa, extus carnea, intus violaceo-maculata.

HAB. Ecuador, Mount Abitagua, Spruce, n. 5071.

5. *M. leucantha*, Moritz, Pl. Exs., folio majore ejusque paris petiolato vato v. ovali-oblongo acuminato basi inaequaliter rarius aequaliter ordato v. obtuso, opposito subaequali v. minore, florum fasciculis v. ymis abbreviatis in pedunculo terminali per paria dissitis, calycis fructiferi tubo oblongo basi oblique obtuso, lobis brevibus.—Folia valde ariabilia, nunc omnia parum inaequalia 3-4-pollicaria latiuscula, nunc majora 6-8-pollicaria opposito dimidio minore. Flores semipollice aullo longiores. Corolla alba, late at oblique campanulata.

HAB. Caracas, Moritz, n. 868; Birschell, Linden, n. 254; Fendler, n. 794; Ocaña, Schlim, n. 22.

6. *M. racemosa*, Benth., foliis ejusque paris subaequalibus petiolatis ovato-oblongis acuminatis basi contractis, pedicellis 1-floris oppositis in racemum terminalem simplicem dispositis.

HAB. New Grenada, from whence it has been introduced into Veitch's nursery.

This species, about to be figured in the *Botanical Magazine*, differs from all the others in the leaves apparently always equal in each pair and the simple inflorescence. The calyx-lobes are also rather broader, and the corolla rather longer for its breadth, than in the several species from which I drew up the generic character.—G. BENTHAM.

---

## PLATE 1199.

### ANODISCUS PERUVIANUS, Benth.

GESNERACEÆ, Tribe GESNEÆ.

*Anodiscus*, Benth. in Benth. et Hook. Gen. Pl. ii. 998.

*A. peruvianus*, Benth., species unica.

HAB. Peru, *Ruiz and Pavon*, along streams and in cultivated places about Tarapoto, rare. Spruce, n. 4400.

Herba erecta, valida, 3-pedalis, pube brevi praesertim in inflorescentia viscosa villosa. Folia opposita, in quoque pari subaequalia, ovali-oblonga v. lanceolata, acuminata, crenulata, basi in petiolum contracta, 6-10-pollicaria, crassiæcula, supra scabro-pubescentia, subtus molliter tomentoso-pubescentia, summa multo minora. Flores parvi, albi, secus rhaebi racemi alterni v. sparsi rarius oppositi, racemo terminali semi-pedali et longiore, additis nonnullis brevioribus ad axillas foliorum superiorum; pedicelli 2-3 lin. longi v. fructiferi duplo longiores, patentes, ad axillam bractæ parvæ. solitarii. Calycis tubus adnatus

obovoideo-turbinatus, sub anthesi 2 lin. longus, lobi 5, tubo breviores, patentia. *Corolla* 3 lin. longa, breviter tubuloso-campanulata, limbo subpatente parum obliqua, lobis 5 brevibus latis parum inaequalibus. *Stamina* 4, didynama, basi corollæ affixa, filamentis brevibus; antheræ liberae, ovatae, loculis parallelis distinctis, connectivo latiusculo apice breviter appendiculato. *Discus* obsoletus. *Ovarium* semi-inferum, stylus brevis, stigmate breviter 2-fido. *Capsula* ultra medium infera, cum rostro supero incurvo-conico 2-valvi semipollicaris. *Semina* normalia, minima, numerosa.

This plant has at first sight much of the aspect and inflorescence of the *Gesnera allagophylla*, but the flowers are much smaller, and differ widely in their structure as well as in colour, showing rather an affinity with *Monopyle* and *Phinæa*.—G. BENTHAM.

Fig. 1. Flower (the throat represented too narrow, and the limb too large and spreading). 2. Corolla cut open, showing the stamens. 3. Two stamens (the tip of the connective omitted). 4. Calyx and pistil. 5. Fruit.

## PLATE 1200.

### NERIACANTHUS PURDIEANUS, Benth.

ACANTHACEÆ, Tribe JUSTICIEÆ.

*Neriacanthus*, Benth. in Benth. et Hook. Gen. Pl. ii. 1696.

*N. Purdieanus*, Benth., species unica.

HAB. Jamaica, on rocks near Christiana, Manchester, rare, *Purdie*.

*Frutex* pulcherrimus, 8-pedalis, partibus novellis pube minuta canescens cæterum glaber. *Folia* opposita, petiolata, obovata v. oblonga,  $1\frac{1}{2}$ - $2\frac{1}{2}$ -pollicaria, obtusissima, basi contracta, coriacea, marginibus recurvis, pennivenia, venis paucis subtus prominulis. *Flores* lilacini, ad axillas bractearum oppositarum solitarii, sessiles, in spicam brevem terminalem dispositi. *Bractæ* herbaceæ, ellipticæ, obtusissimæ, 6-9 lin. longæ, 3-5-nerves; bracteolæ 0. *Calyx* 5-partitus, ad 2 lin. longus, segmentis linear-lanceolatis subæqualibus. *Corolla* tubus 8-9 lin. longus, cylindraceus, ad fæcem parum ampliatus, limbus patens subplanus; lobi 5 obovati, postici semipollicares, antico paullo majore, æstivatione imbricati, posticis interioribus antico extimo. *Stamina* 4, didynama, tubo inclusa; antheræ lineares, 1-loculares, muticæ; staminodium posticum breviter filiforme. *Stylus* filiformis, apice integer. *Ovula* in quoque loculo ovarii 2. *Capsula* ignota.

Fig. 1. Flower. 2. Corolla cut open, showing the stamens and pistil. 3. Stamen. 4. Pistil. 5. Ovary, longitudinal section.

## INDEX OF SPECIES AND SYNONYMS.

---

	Page	Plate		Page	Plate
<i>Acacia crassifolia</i> , <i>A. Gray</i> . . . . .	60	1166	<i>Clappia aurantiaca</i> , <i>Benth.</i> . . . . .	3	1104
— <i>reniformis</i> , <i>Benth.</i> . . . . .	59	1165	— <i>suzedæfolia</i> , <i>Torr.</i> . . . . .	4	1105
<i>Adelostigma senegalense</i> , <i>Benth.</i> . . . . .	48	1144	<i>Coleocoma centaurea</i> , <i>F. Muell.</i> . . . . .	33	1136
<i>Aganippea bellidiflora</i> , <i>DC.</i> . . . . .	16	1117	<i>Conya altaica</i> , <i>DC.</i> . . . . .	6	
<i>Amblyocalyx Beccarii</i> , <i>Benth.</i> . . . . .	69	1179	— <i>umbrosa</i> , <i>Kar. et Kir.</i> . . . . .	6	
<i>Amblystigma hypoleucum</i> , <i>Benth.</i> . . . . .	76	1188	<i>Corynnea pilosa</i> , <i>Hook. f.</i> . . . . .	22	1123
— <i>pedunculare</i> , <i>Benth.</i> . . . . .	77		<i>Corysanthes Cheesemani</i> , <i>Hook. f.</i> . . . . .	19	1120
<i>Anaglypha acicularis</i> , <i>Benth.</i> . . . . .	9	1109	<i>Cremanthodium palmatum</i> , <i>Benth.</i> . . . . .		
<i>Anodiscus peruvianus</i> , <i>Benth.</i> . . . . .	1199		— . . . . .	38	1142
<i>Anthobolus foveolatus</i> , <i>F. Muell.</i> . . . . .	65	1173	— <i>pinnatifidum</i> , <i>Benth.</i> . . . . .	39	1142
<i>Aphanaethe philippinensis</i> , <i>Planch.</i> . . . . .	65	1174	— <i>reniforme</i> , <i>Benth.</i> . . . . .	37	1141
— <i>rectinervis</i> , <i>Planch.</i> . . . . .	65		<i>Crinitaria humilis</i> , <i>Hook.</i> . . . . .	6	
<i>Asemnanthe pubescens</i> , <i>Hook. f.</i> . . . . .	40	1145	<i>Cyclophyllum Deplanchei</i> , <i>Hook. f.</i> . . . . .	52	1158
<i>Aster angustus</i> , <i>Torr. et Gr.</i> . . . . .	6				
— <i>retortus</i> , <i>Harv.</i> . . . . .	13		<i>Denekia capensis</i> , <i>Thunb.</i> . . . . .	35	1138
<i>Aulacocalyx jasminiflora</i> , <i>Hook. f.</i> . . . . .	25	1126	<i>Desmanthodium ovatum</i> , <i>Benth.</i> . . . . .	15	
<i>Axiniphyllum corymbosum</i> , <i>Benth.</i> . . . . .	16	1118	— <i>perfoliatum</i> , <i>Benth.</i> . . . . .	14	1116
— <i>tomentosum</i> , <i>Benth.</i> . . . . .	17		<i>Dialypetalum floribundum</i> , <i>Benth.</i> . . . . .	68	1178
<i>Belonophora coffeoides</i> , <i>Hook. f.</i> . . . . .	26	1127	<i>Didymochlamys Whitei</i> , <i>Hook. f.</i> . . . . .	21	1122
<i>Bernoullia flammea</i> , <i>Oliv.</i> . . . . .	62	1169			
— (fr.) . . . . .	1170		<i>Ectadiopsis nigritana</i> , <i>Benth.</i> . . . . .	75	1187
<i>Bolusia capensis</i> , <i>Benth.</i> . . . . .	57	1163	<i>Ectadium oblongifolium</i> , <i>Meissn.</i> . . . . .	76	
<i>Borreria tetracocca</i> , <i>Thw.</i> . . . . .	23		<i>Epallage salvifolia</i> , <i>DC.</i> . . . . .	33	
<i>Bothriocline Schimperi</i> , <i>Oliv.</i> . . . . .	30	1133	<i>Erigeron ciliatus</i> , <i>Ledeb.</i> . . . . .	6	
<i>Brachystachys ciliata</i> , <i>Ledeb.</i> . . . . .	6				
— <i>menthodora</i> , <i>Benth.</i> . . . . .	5	1106	<i>Faramea colorata</i> , <i>Benth.</i> . . . . .	27	
— <i>obovata</i> , <i>Benth.</i> . . . . .	7		<i>Felicia retorta</i> , <i>DC.</i> . . . . .	13	
— <i>robusta</i> , <i>Benth.</i> . . . . .	6		<i>Fergusonia Thwaitesii</i> , <i>Hook. f.</i> . . . . .	23	1124
— <i>umbrosa</i> , <i>Benth.</i> . . . . .	6		<i>Fresenia fasciculata</i> , <i>Boiss.</i> . . . . .	8	1108
<i>Brookea dasyantha</i> , <i>Benth.</i> . . . . .	84	1107			
— <i>tomentosa</i> , <i>Benth.</i> . . . . .	84		<i>Gongrothamnus divaricatus</i> , <i>Steetz</i> . . . . .	36	1140
<i>Calliandra colletioides</i> , <i>Griseb.</i> . . . . .	61	1167	<i>Guthriea capensis</i> , <i>Bolus</i> . . . . .	55	1161
<i>Calostephane divaricata</i> , <i>Benth.</i> . . . . .	10	1111	<i>Gymnolema Newii</i> , <i>Benth.</i> . . . . .	74	1186
<i>Campstemon Schultzii</i> , <i>Mart.</i> . . . . .	18	1119	<i>Gymnopentzia bifurcata</i> , <i>Benth.</i> . . . . .	49	1155
<i>Ceratopyxis verbenacea</i> , <i>Hook. f.</i> . . . . .	24	1125			
<i>Chalepophyllum guyanense</i> , <i>Hook. f.</i> . . . . .	43	1148	<i>Hedyotis tillaeacea</i> , <i>F. Muell.</i> . . . . .	41	
<i>Chiliocephalum Schimperi</i> , <i>Benth.</i> . . . . .	34	1137	<i>Hekistocarpa minutiflora</i> , <i>Hook. f.</i> . . . . .	46	1151
			— <i>longifolia</i> , <i>Benth.</i> . . . . .	16	
			<i>Heliogenes</i> . . . . .		
			<i>Heterophyllaea pustulata</i> , <i>Hook. f.</i> . . . . .	31	1134

Page	Plat.	Page	Plat.
<i>Heterostemma urceolatum</i> , Dals. 79		Omphacomeria acerba, A. DC. 64	117
<i>Heterotoma macrocarpae</i> , Benth. 68	1177	<i>Ondetia linearis</i> , Benth. 11	111
<i>Hirtella manzibarica</i> , Oliv. 81	1193	<i>Otopappus verbesinoides</i> , Benth. 47	113
<i>Homaloclados colorata</i> , Hook. f. 27	1128		
<i>Homochete conferta</i> , Benth. 9	1110	<i>Pentacheta gracilis</i> , Benth. 1	110
<i>Huanalia colisticoides</i> , Phil. 29	1130	— <i>aurea</i> , Nutt. 1	
<i>Hymenocardia ulmoides</i> , Oliv. 29	1131	<i>Phialanthus spicatus</i> , Sauv. 24	
<i>Hymenophyllum Cheesemani</i> , Baker 30	1132	<i>Phlebocarya ciliata</i> , Br. 66	117
<i>Hymenostophium angustifolium</i> , Benth. 49		— <i>filifolia</i> , F. Muell. 67	117
— <i>mexicanum</i> , Benth. 48	1154	<i>Pithecolobium hystrix</i> , Benth. 61	1165
<i>Koompasia malaccensis</i> , Maing. 58	1164	<i>Plagiocarpus axillaris</i> , Benth. 56	1162
<i>Lachnophyllum gossypinum</i> , Bunge 8		<i>Pleotocarpus mutica</i> , Benth. 71	1181
— <i>Nozannum</i> , Bess. 7	1107	— <i>rostrata</i> , Benth. 71	1182
<i>Leptocladus Thomsoni</i> , Oliv. 83		<i>Plocosperma baxifolium</i> , Benth. 82	1195
<i>Leptomeria acerba</i> , R. Br. 64		<i>Pluchea basiflora</i> , F. Muell. 39	
<i>Leptosecia ruellioidea</i> , Hook. f. 44	1149	— <i>frutescens</i> , Benth. 51	1157
<i>Leucopholis latifolia</i> , Benth. 14		— <i>pinnatifida</i> , Hook. f. 50	1156
— <i>phylicoidea</i> , Gardn. 18	1115	<i>Psalanthus Mannii</i> , Hook. f. 28	1129
<i>Ligularia reniformis</i> , DC. 37		<i>Pycnobotrya nitida</i> , Benth. 72	1183
<i>Lopholena platyphylla</i> , Benth. 12	1113		
<i>Luina hypoleuca</i> , Benth. 35	1139		
<i>Lysidice rhodostegia</i> , Hance 80	1192		
<i>Mitchella pilosa</i> , Benth. 23		<i>Rhynchosigma brevipes</i> , Benth. 78	
<i>Monopyle leucantha</i> , Moritz. 87		— <i>parviflorum</i> , Benth. 78	
— <i>macrocarpa</i> , Benth. 85	1198	— <i>racemosum</i> , Benth. 77	1189
— <i>macrophylla</i> , Benth. 86		<i>Rigolepis borneensis</i> , Hook. f. 54	1160
— <i>paniculata</i> , Benth. 86		<i>Rondeletia verbenacea</i> , Griseb. 24	
— <i>racemosa</i> , Benth. 87			
— <i>subsessilis</i> , Benth. 86		<i>Salmeopsis Claussenii</i> , Benth. 47	1157
<i>Morina betonicoides</i> , Benth. 63	1171	<i>Senecio retortus</i> , Benth. 13	1114
<i>Mostuea surinamensis</i> , Benth. 83	1196	— <i>reniformis</i> , Wall. 37	
— <i>Thomsoni</i> , Oliv. 83		<i>Solenandra ixoroidea</i> , Hook. f. 45	1150
<i>Motandra guineensis</i> , A. DC. 74	1185	<i>Sphacophyllum Bojeri</i> , Benth. 32	1135
<i>Neriacanthus Purdieanus</i> , Benth. 88	1200	<i>Spheroecodon natalense</i> , Benth. 79	
<i>Normandia neocaledonica</i> , Hook. f. 20	1121	— <i>obtusifolium</i> , Benth. 78	1190
<i>Notonerium Gossei</i> , Benth. 70	1180	<i>Sponia ixicifolia</i> , Kurz. 65	
<i>Notopora Schomburgkiana</i> , Hook. f. 58	1159	<i>Stachycephalum mexicanum</i> , Sch. Bip. 2	1102
<i>Oianthus urceolatus</i> , Benth. 79	1191	<i>Stilpnophyllum lineatum</i> , Hook. f. 42	1147
<i>Olivsea tricuspis</i> , Sch. Bip. 2	1103	<i>Synaptantha tillaeacea</i> , Hook. f. 41	1146
		<i>Synaptolepis alternifolia</i> , Oliv. 81	1194
		<i>Taxotrophis rectinervis</i> , F. Muell. 65	
		<i>Thecipidium basiflorum</i> , F. Muell. 39	1143
		<i>Triplodium angustum</i> , Lindl. 6	
		<i>Zygodia axillaris</i> , Benth. 73	1184
		— <i>myrtifolia</i> , Benth. 73	
		— <i>subsessilis</i> , Benth. 73	

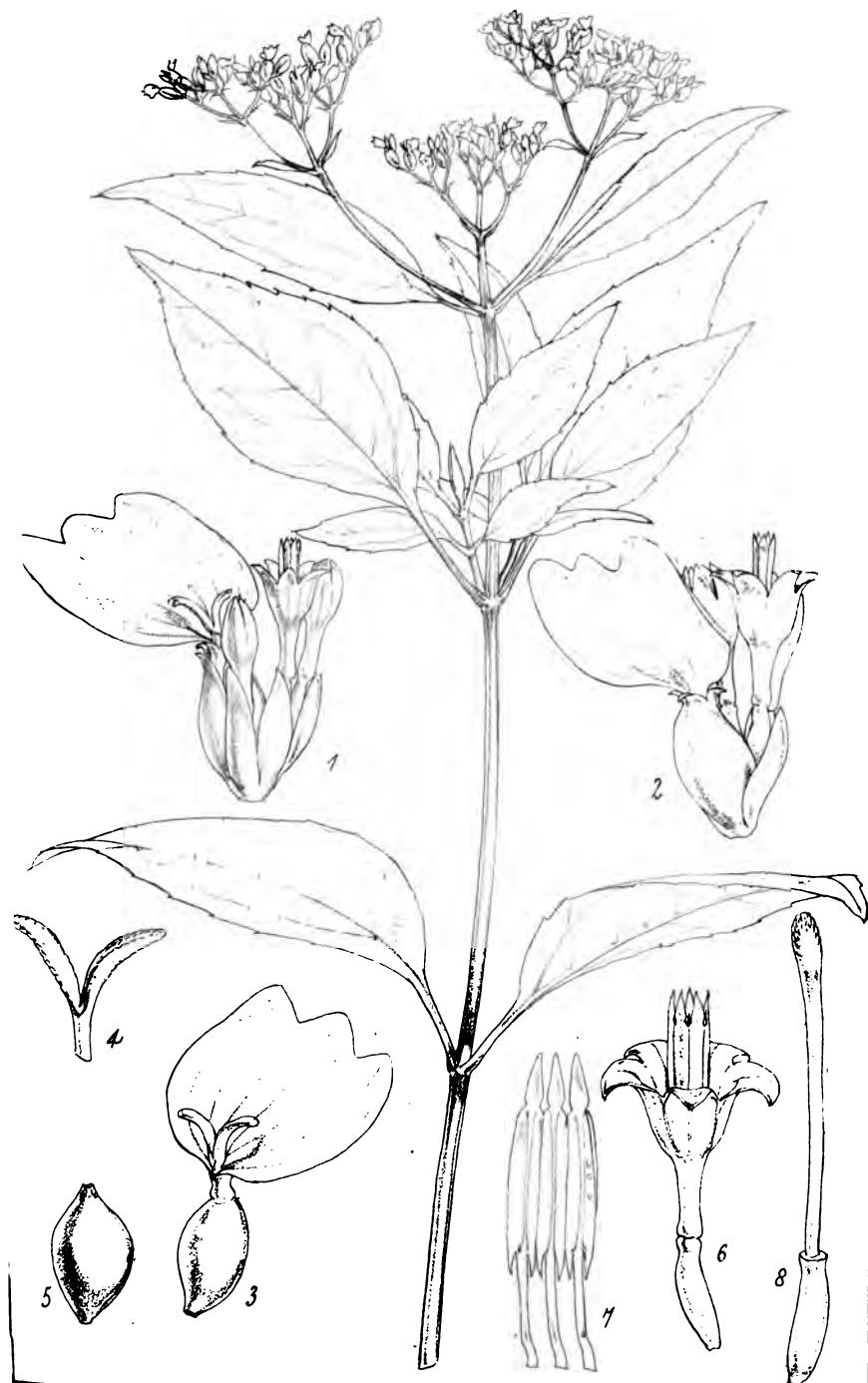


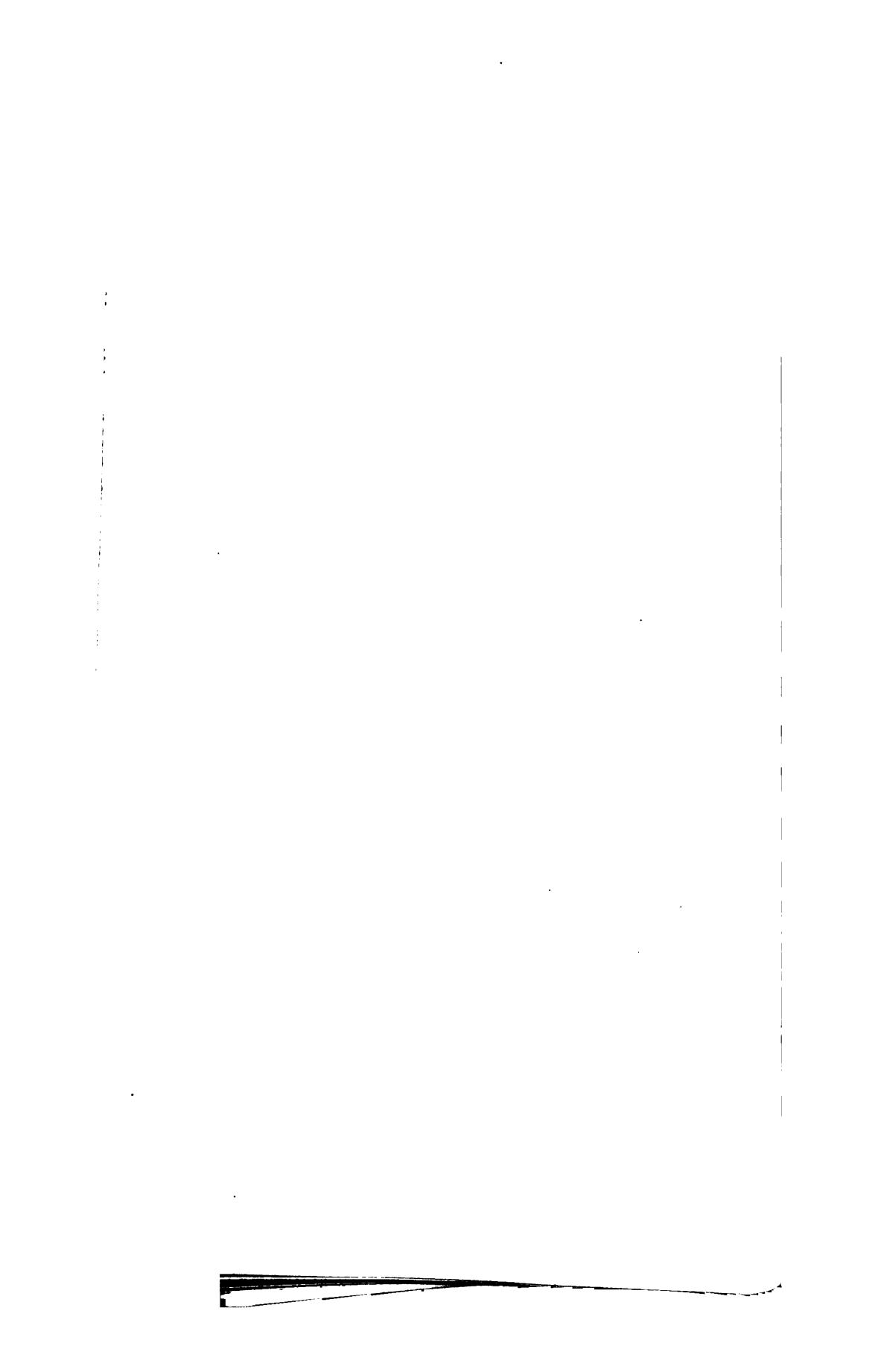
V.H. Fitch del & lith.

J.D. Fitch imp.

*Pentachaeta gracilis* Benth.









W.R. Fitch del. et lith.

J.N. Fitch inv.

*Olivaea tricuspis*, Sch. Bip.

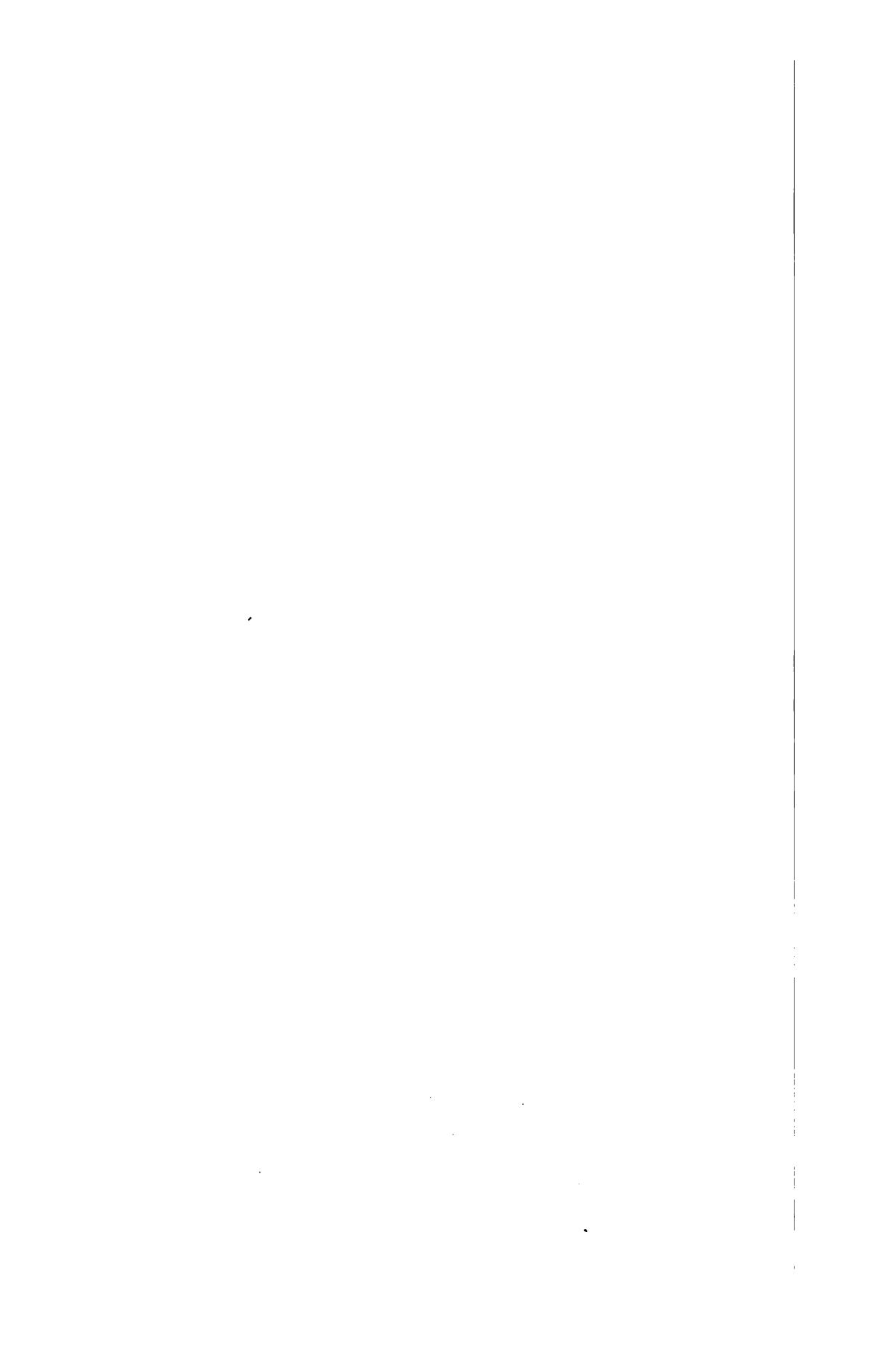




W.H. Fitch del & lith.

J.N. Fitch imp.

*Clappia aurantiaca* Benth.





W.H. Fitch del ex lith.

J. N. Fitch imp.

Clappia suaedaeifolia, A. Gr.





W.H. Fitch del. et lith.

J.N. Fitch imp.

*Brachyactis menthodora* Benth.



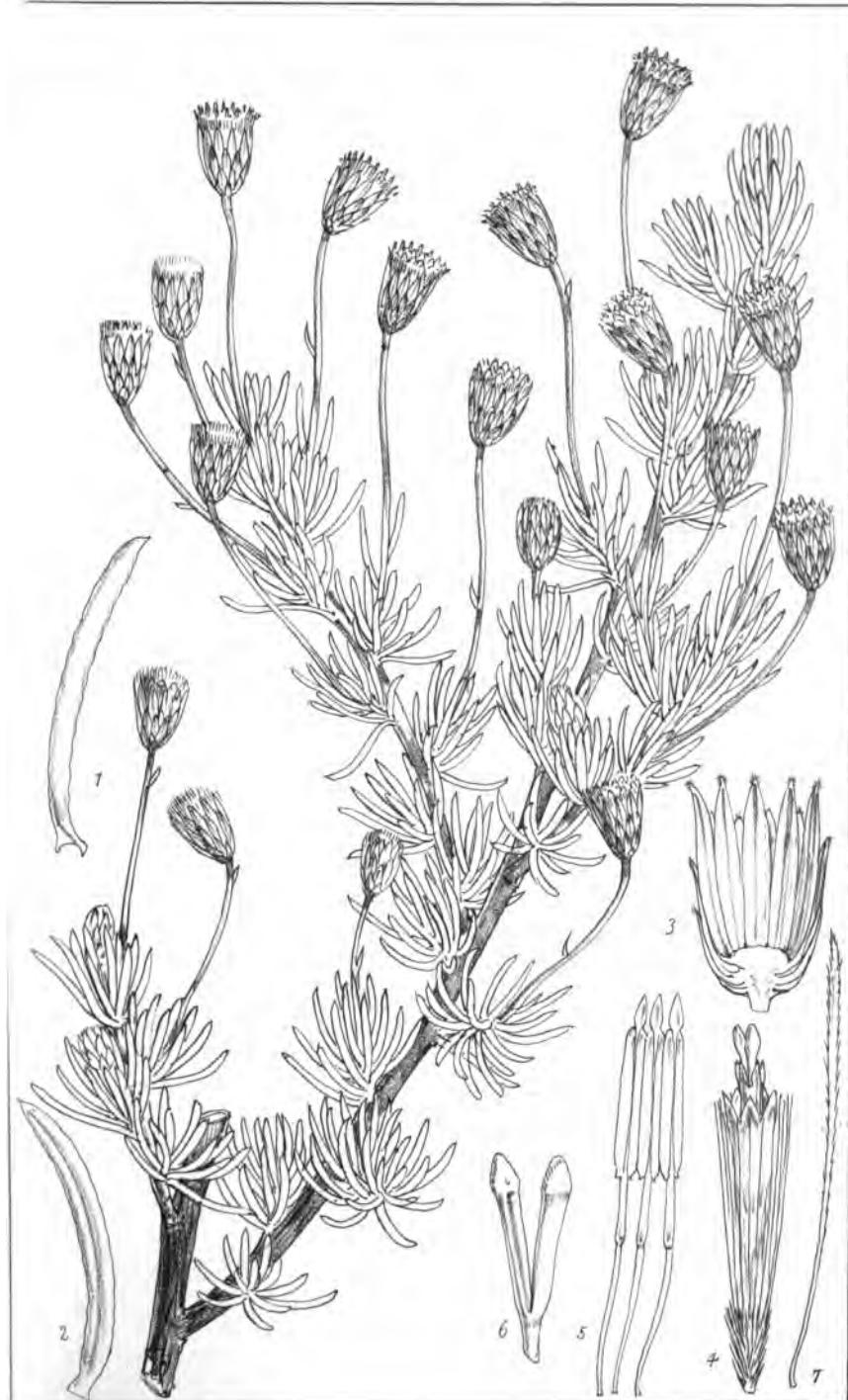


W H Fitch del et lith.

J. N. Fitch

Lachnophyllum Noëanum Boiss.

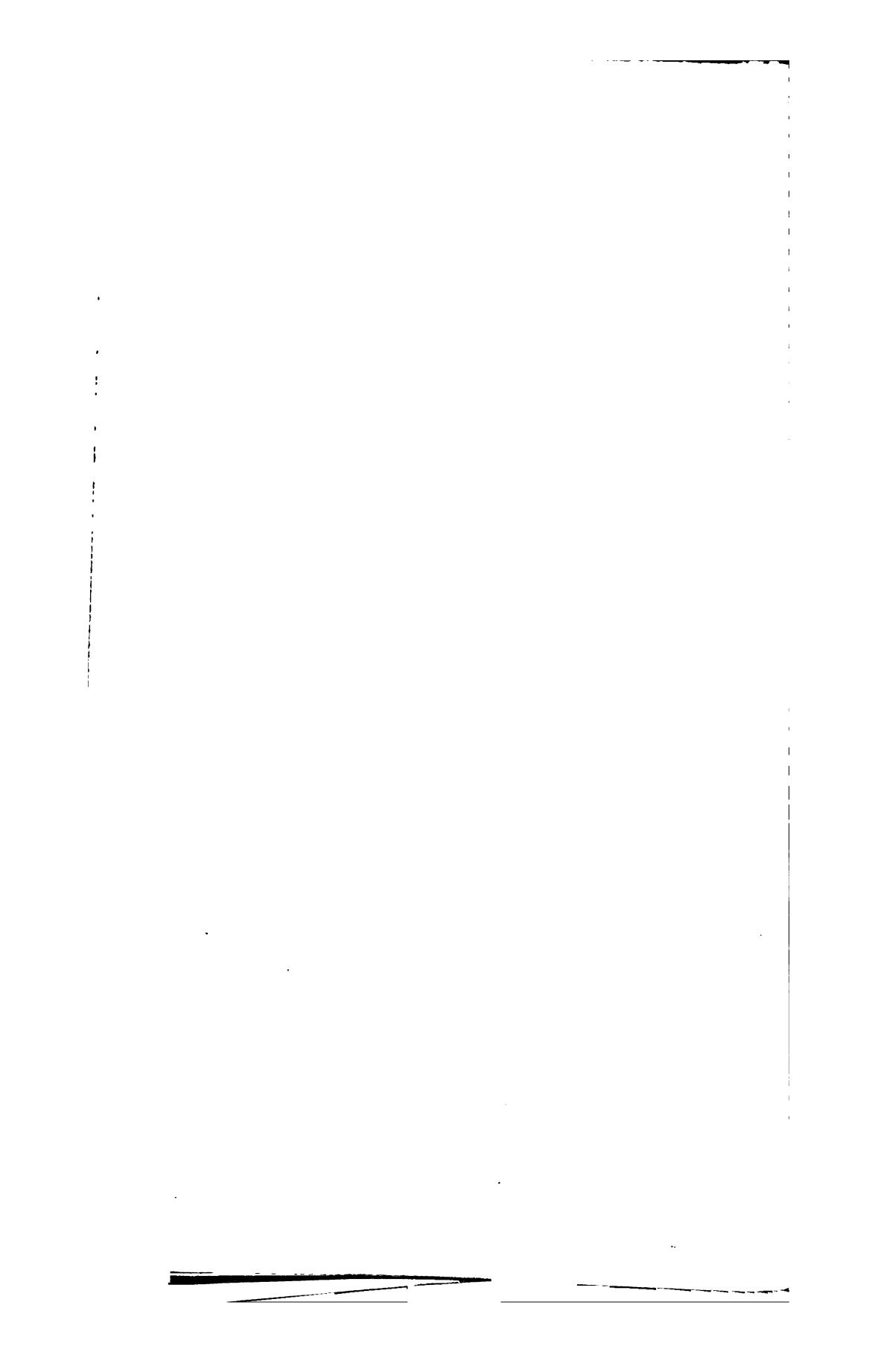


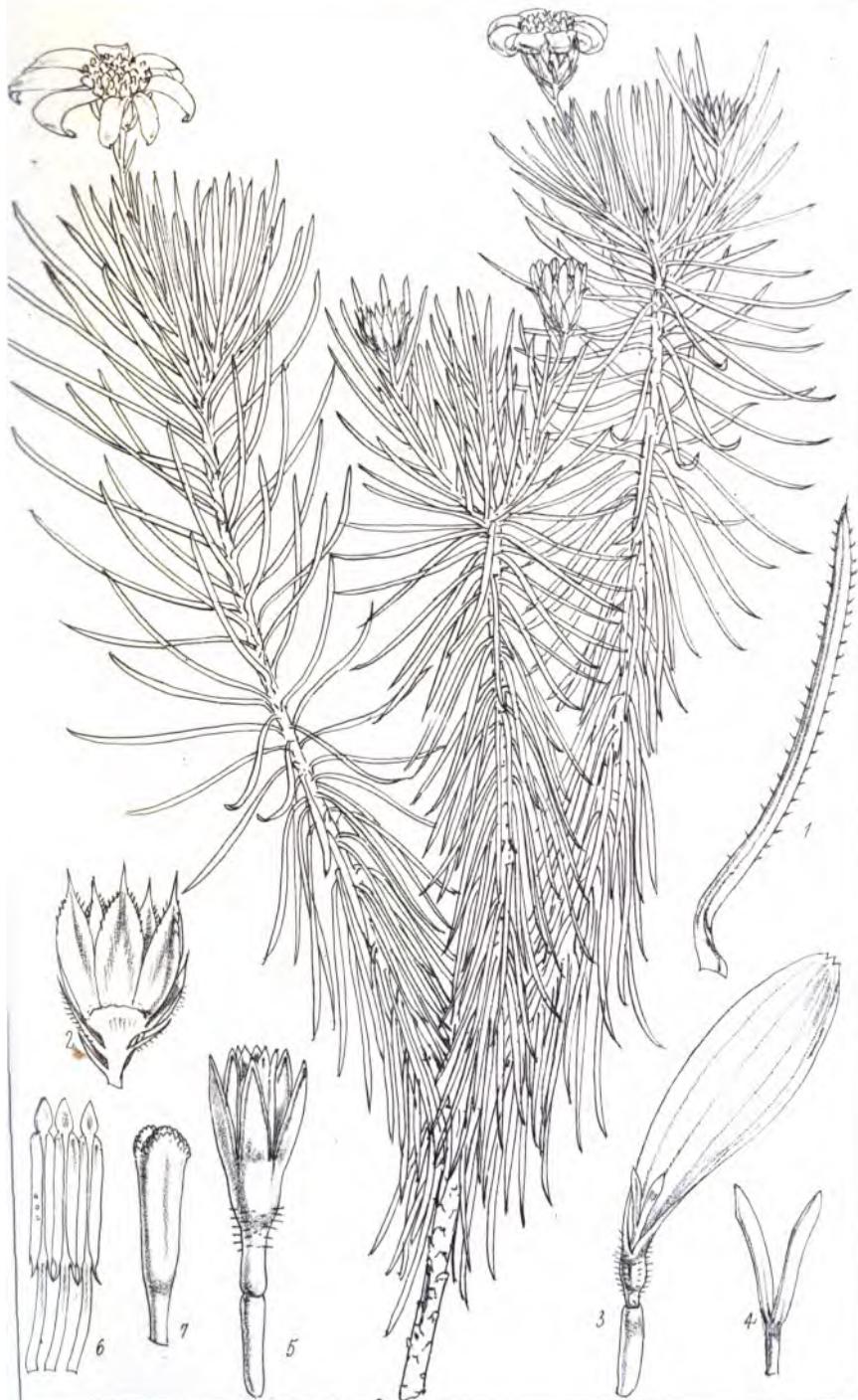


W.H. Fitch del & lith.

J.N. Fitch imp.

*Fresenlia fasciculata* *Bolus.*

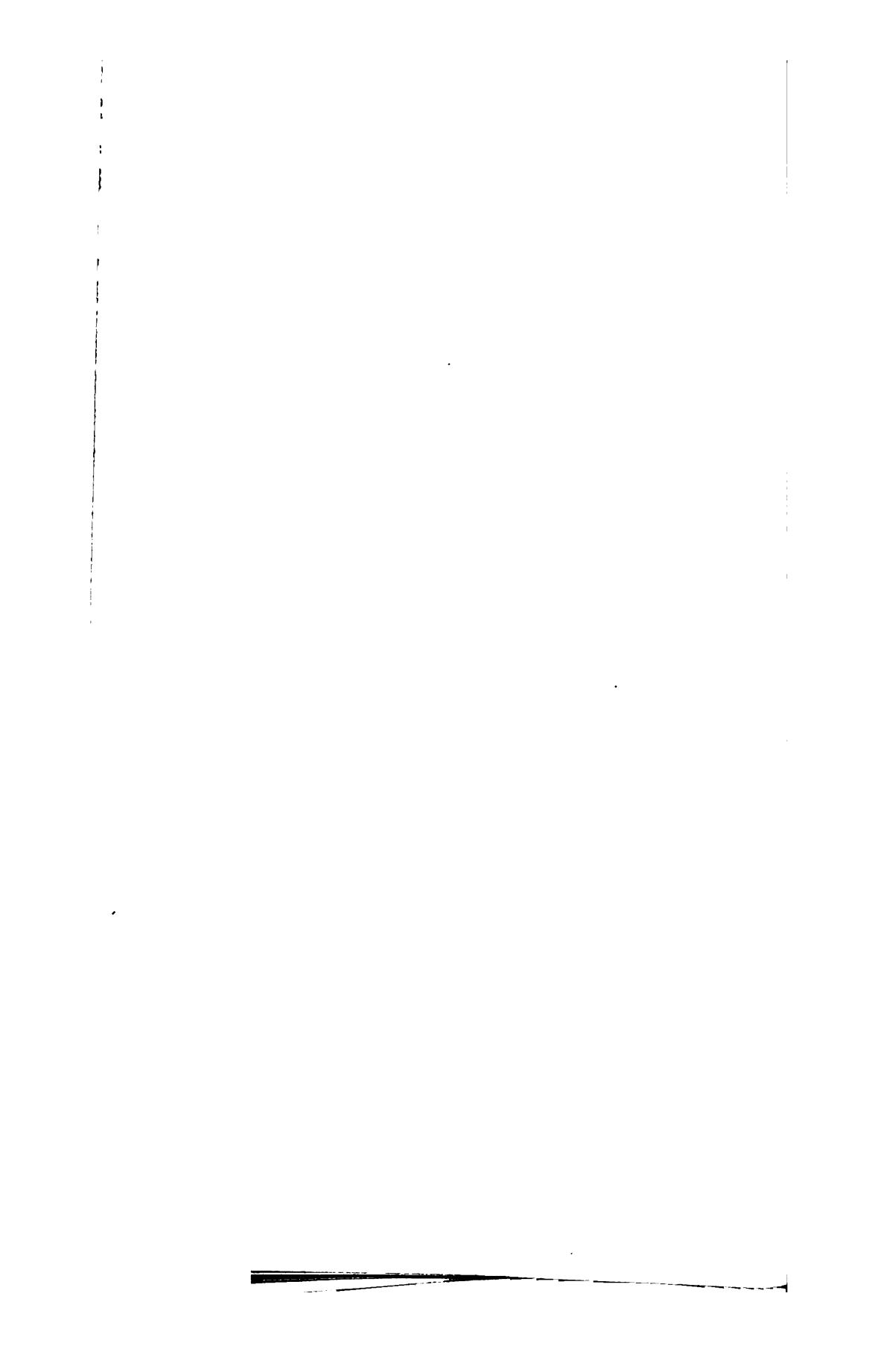




W.H.Fitch del. et lith.

J.N.Fitch †

*Oxylaena acicularis* Benth.





W. H. Bishop del. et lith.

J. N. Field, imp.

*Homochaete conferta*, Benth.





W.H. Fitch del. et. lith.

J.N. Fitch imp.

*Calostephane divaricata*, Benth.





W.H. Pitch del et lith.

J. N. Pitch imp.

*Ondetia linearis, Benth.*

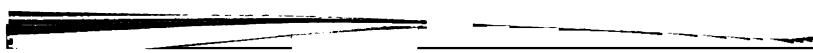


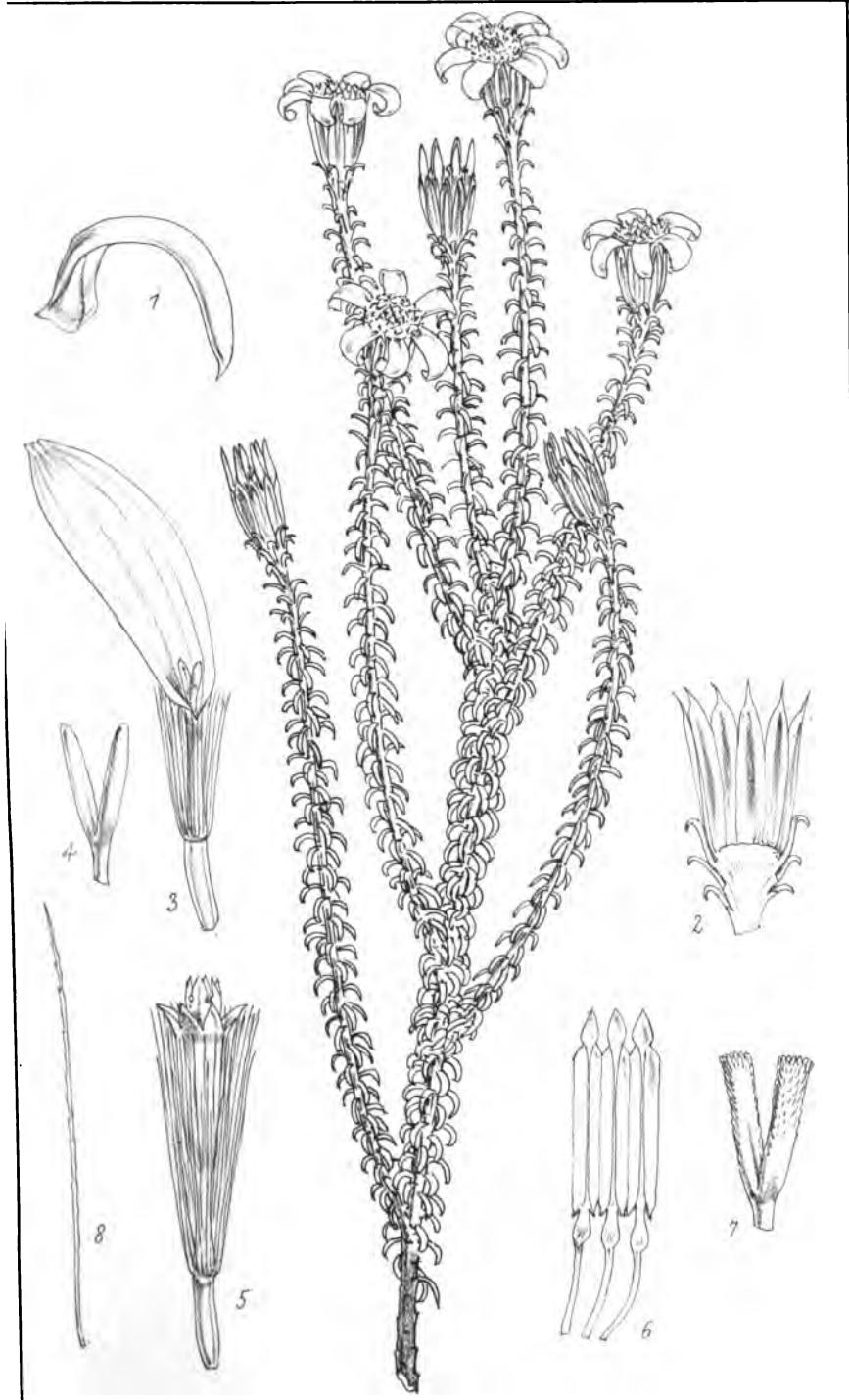


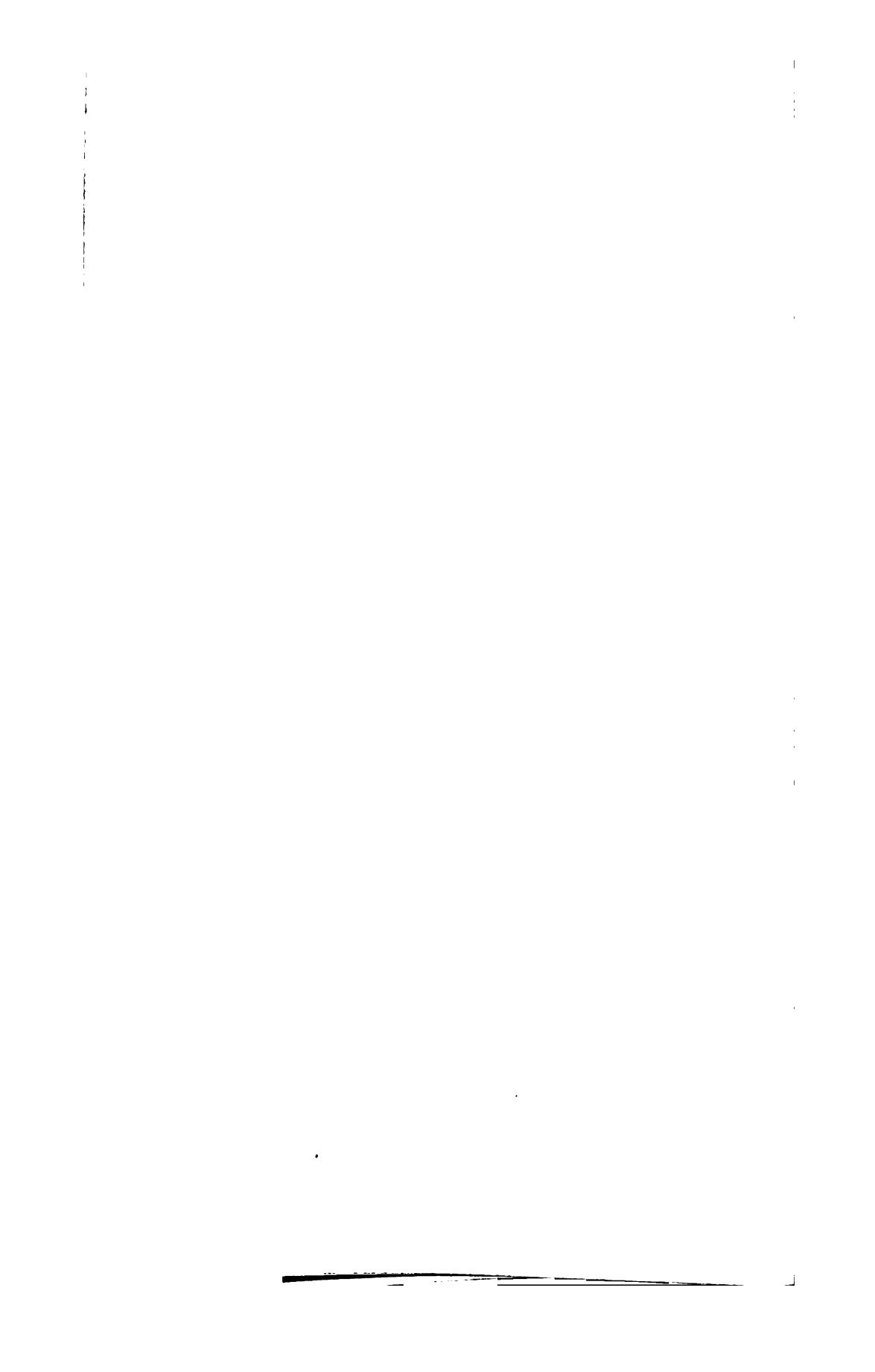
W.H.Fitch del. et lith.

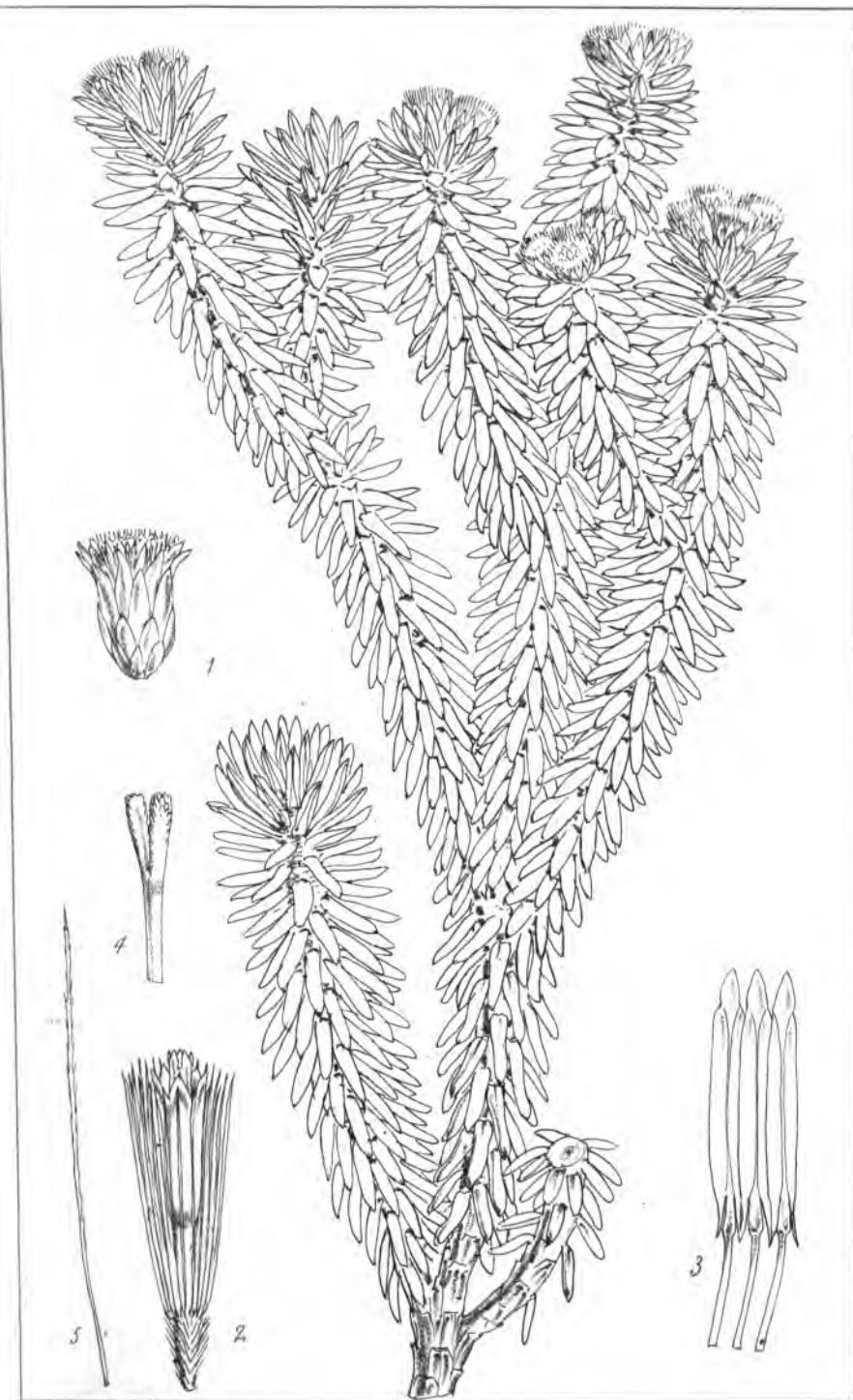
J.N. Pitch imp.

*Lopholæna platyphylla* Benth.









W.H. Fitch del et lith.

J.N. Fitch imp.

*Leucopholis phylicoides*, Gardn.

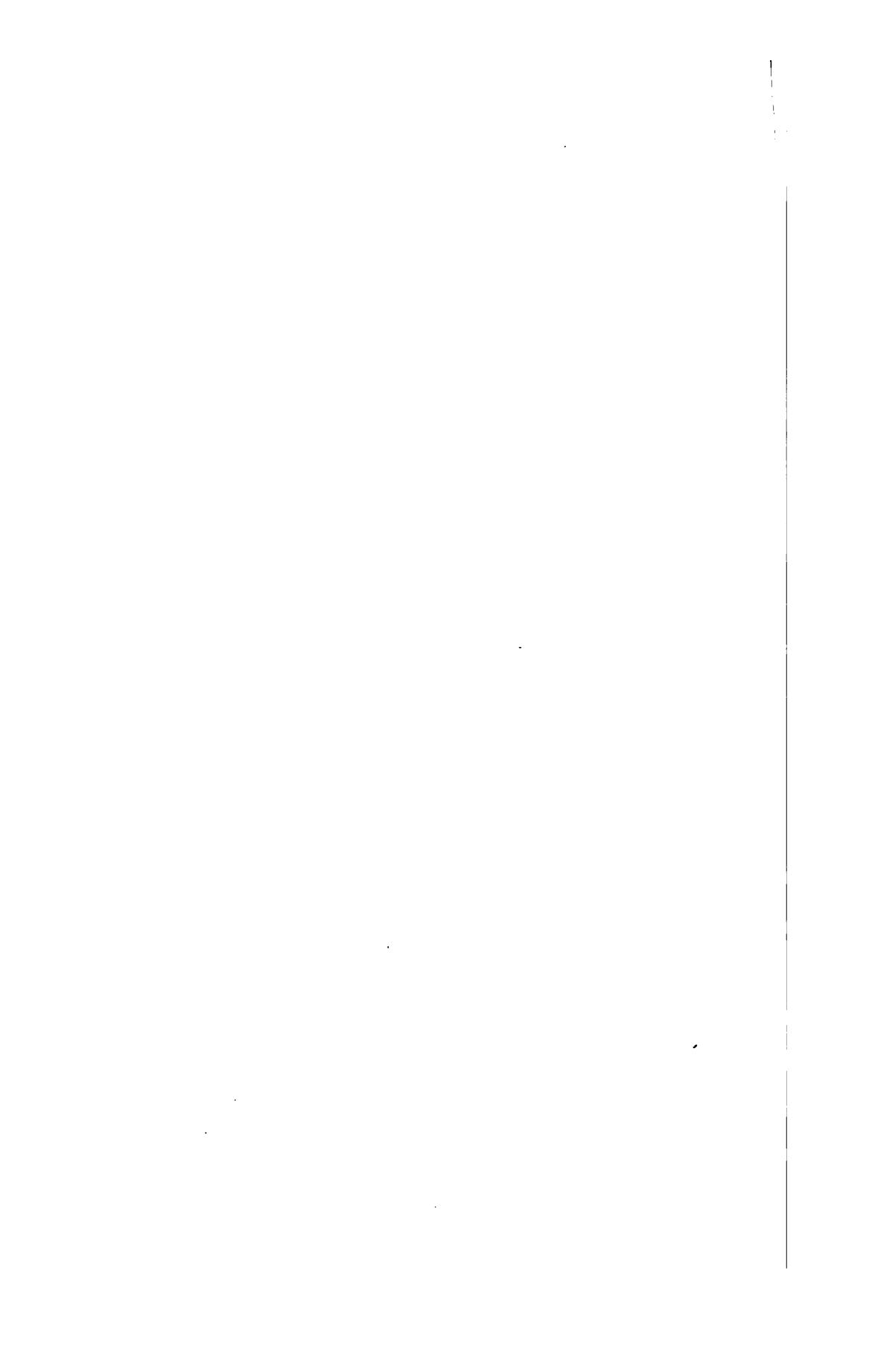




N H Fitch del et lith

J N Fitch imp

Desmanthodium perfoliatum, Benth





W.H. Fitch del et lith.

J.N. Fitch imp.

*Aganippea bellidiflora*, D.C.





W.H. Fitch. del. et lith.

J.N. Fitch. ir.

*Aganippea bellidiflora*, D.C.



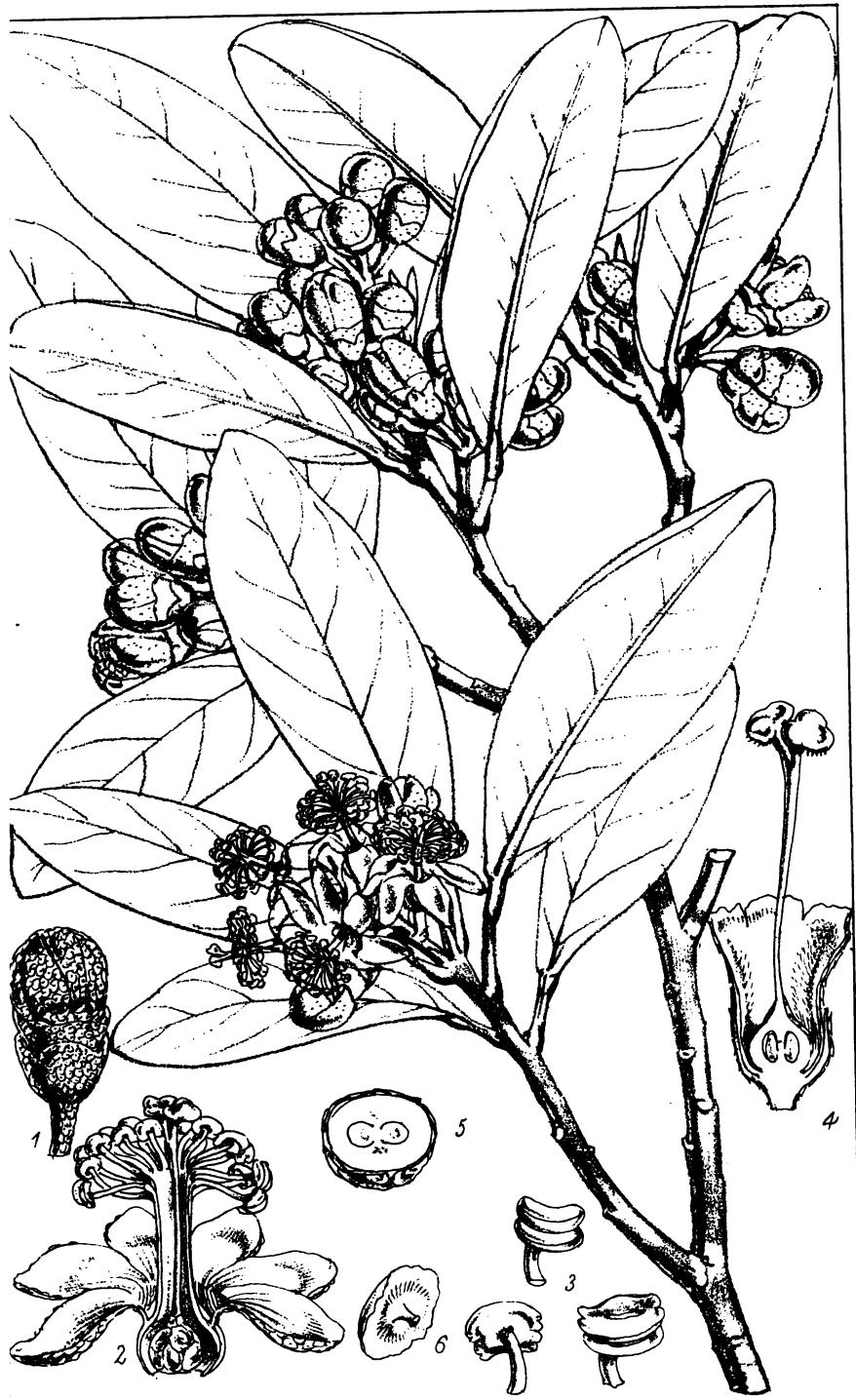


W.H. Fitch del et lith.

J. N. Fitch i.

*Axiniphyllum corymbosum*, Benth.

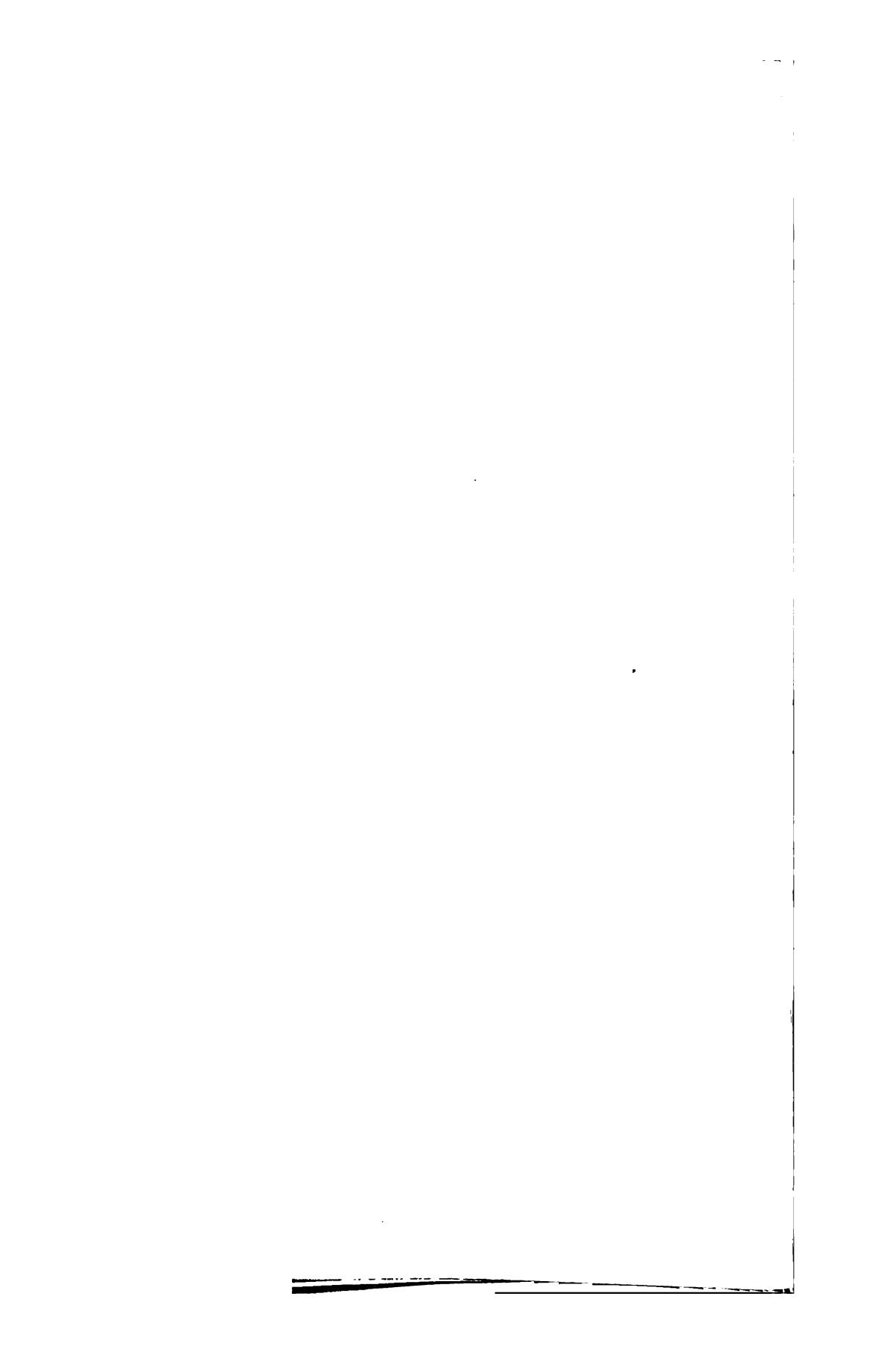


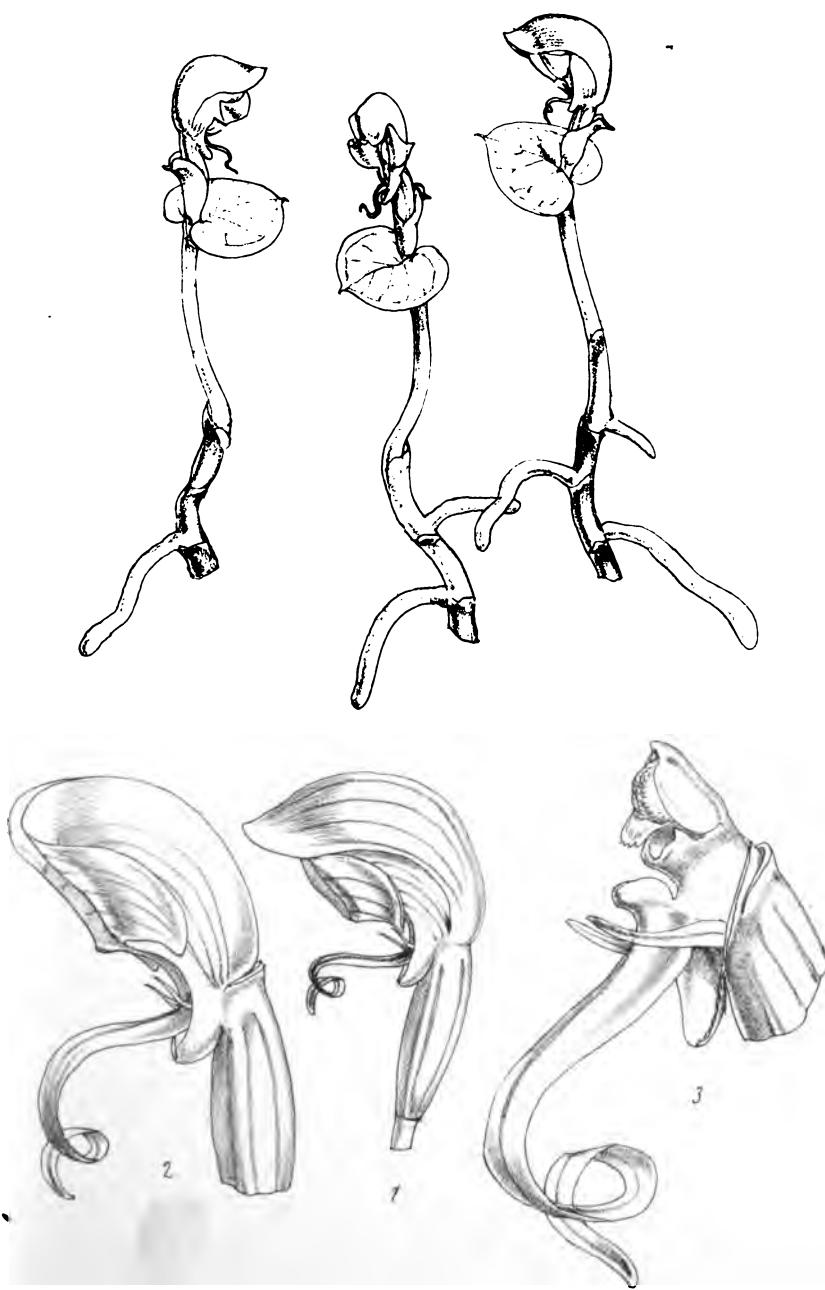


W.H. Fitch del et lith.

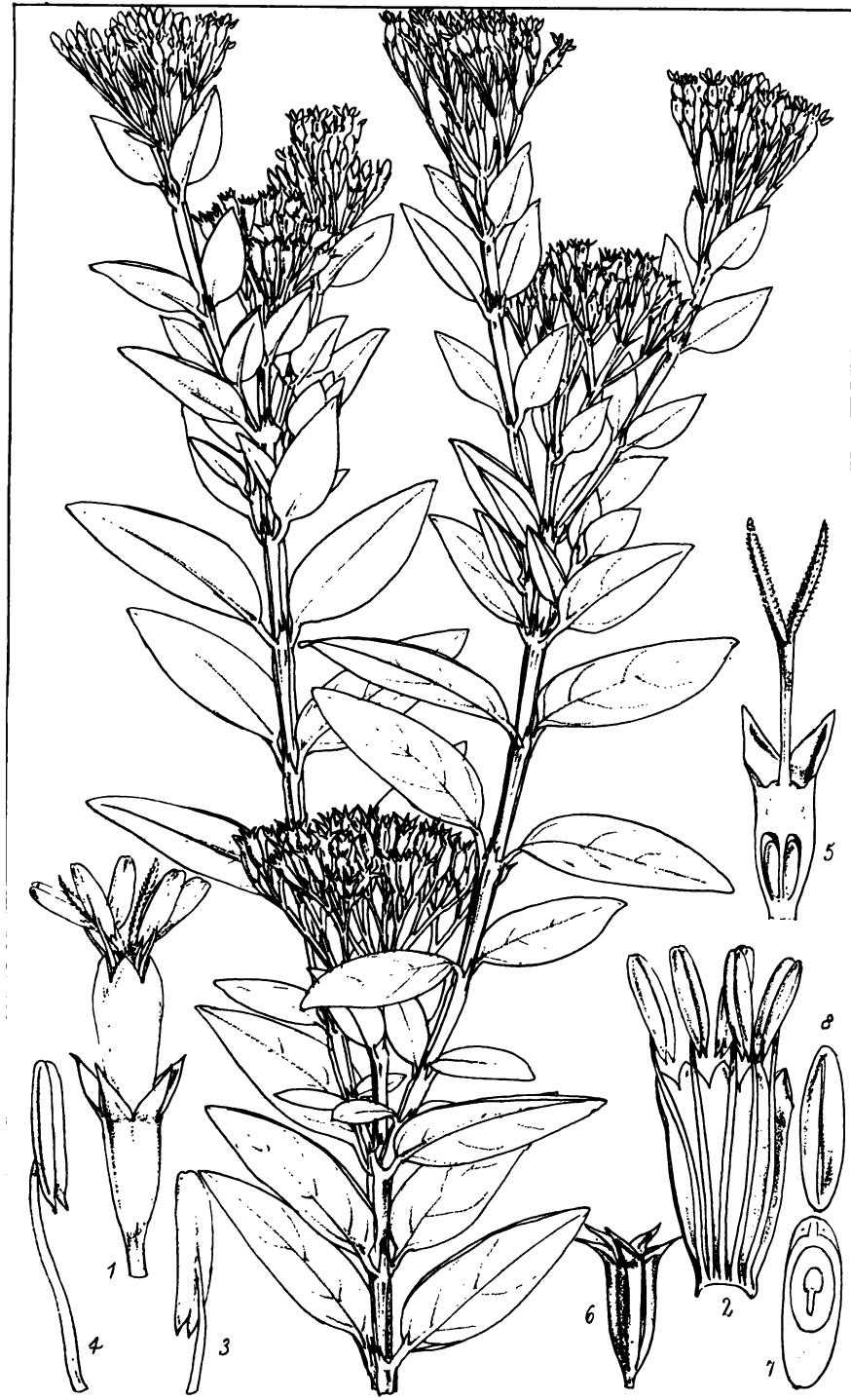
J.N. Fitch imp.

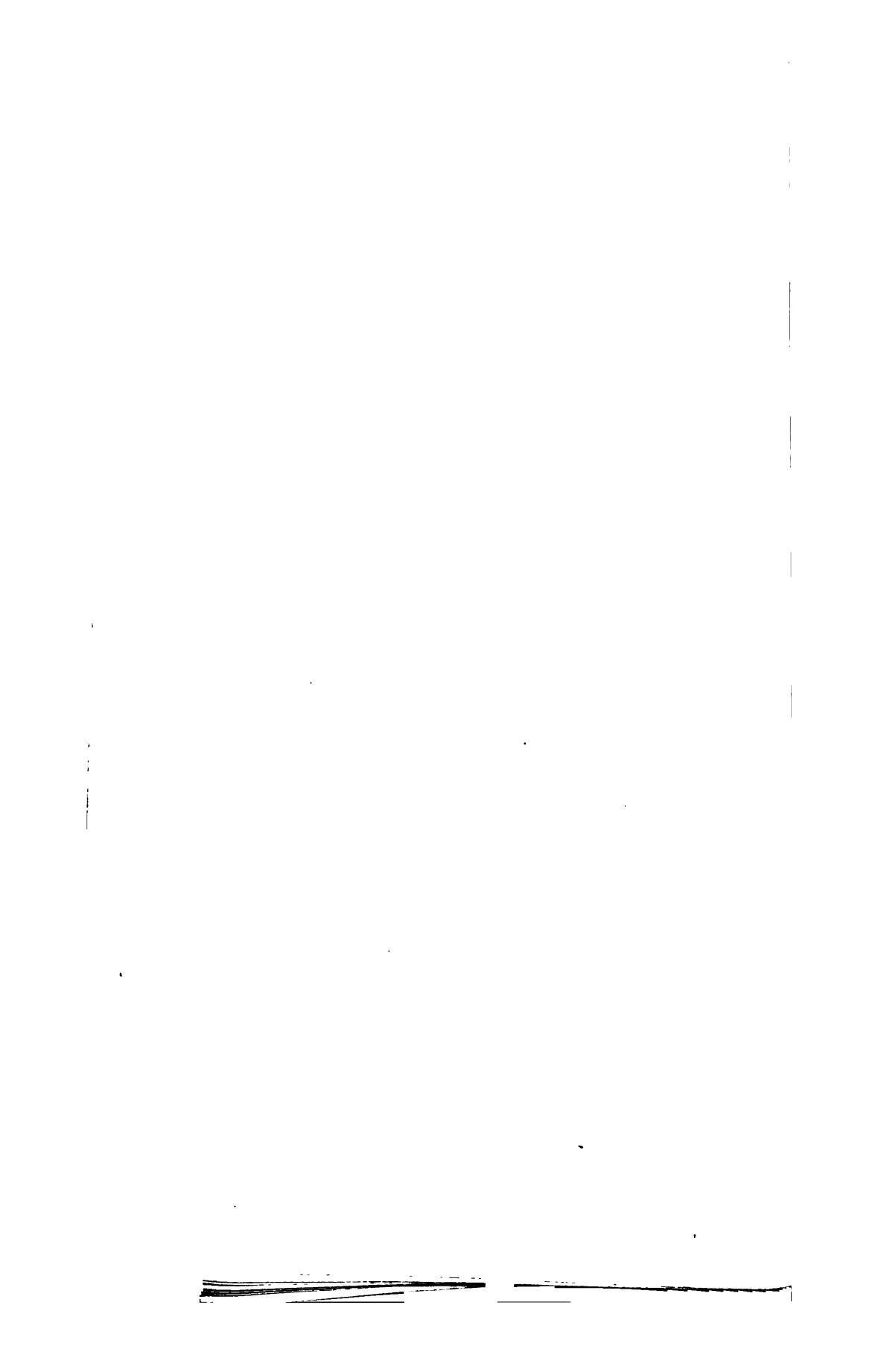
Camptostemon Schultzii, Mast.





---





Pl. 1122.

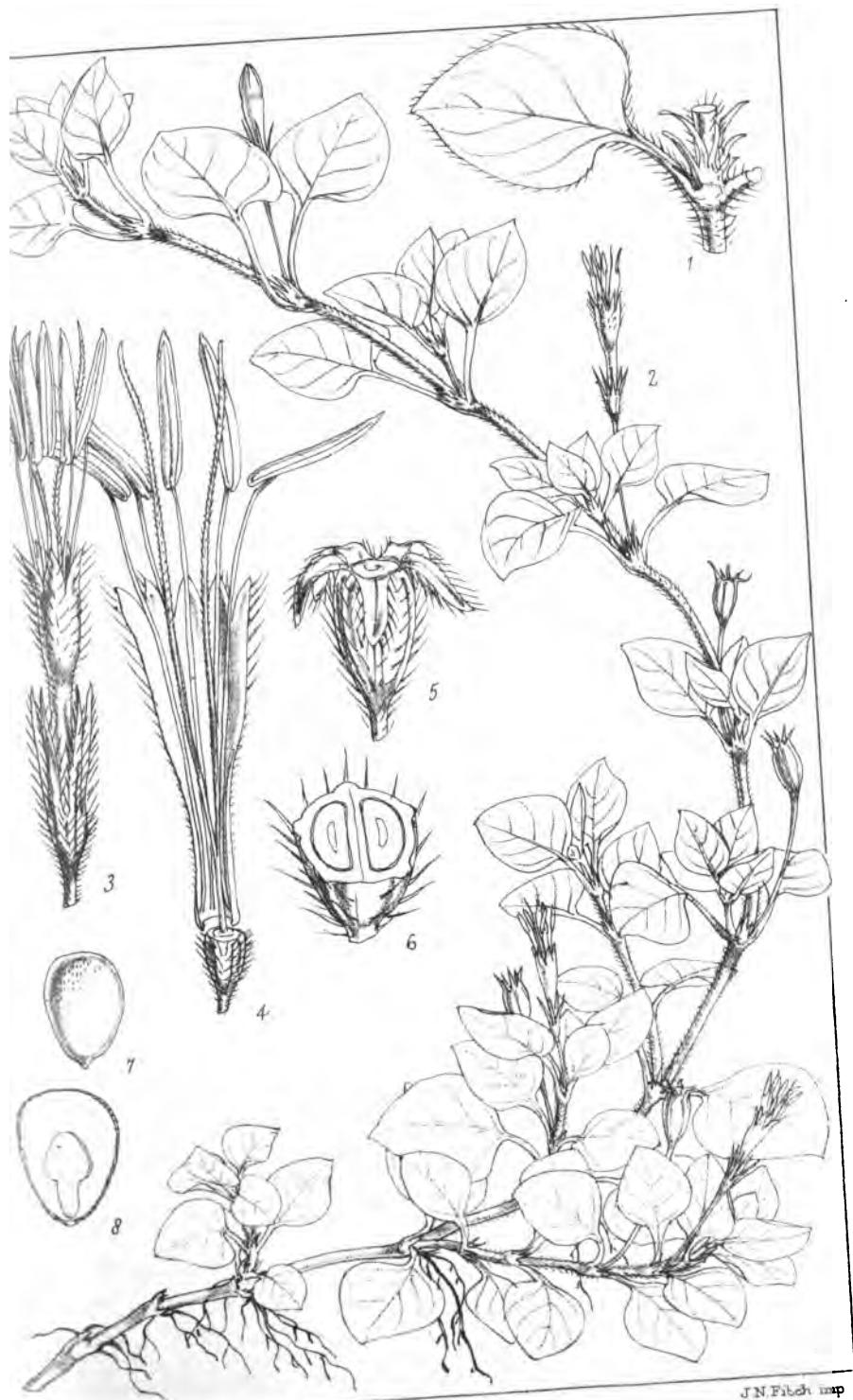


W.H. Fitch del et lith.

J. N. Fitch imp.

Didymochlamys Whitei, Hk.f

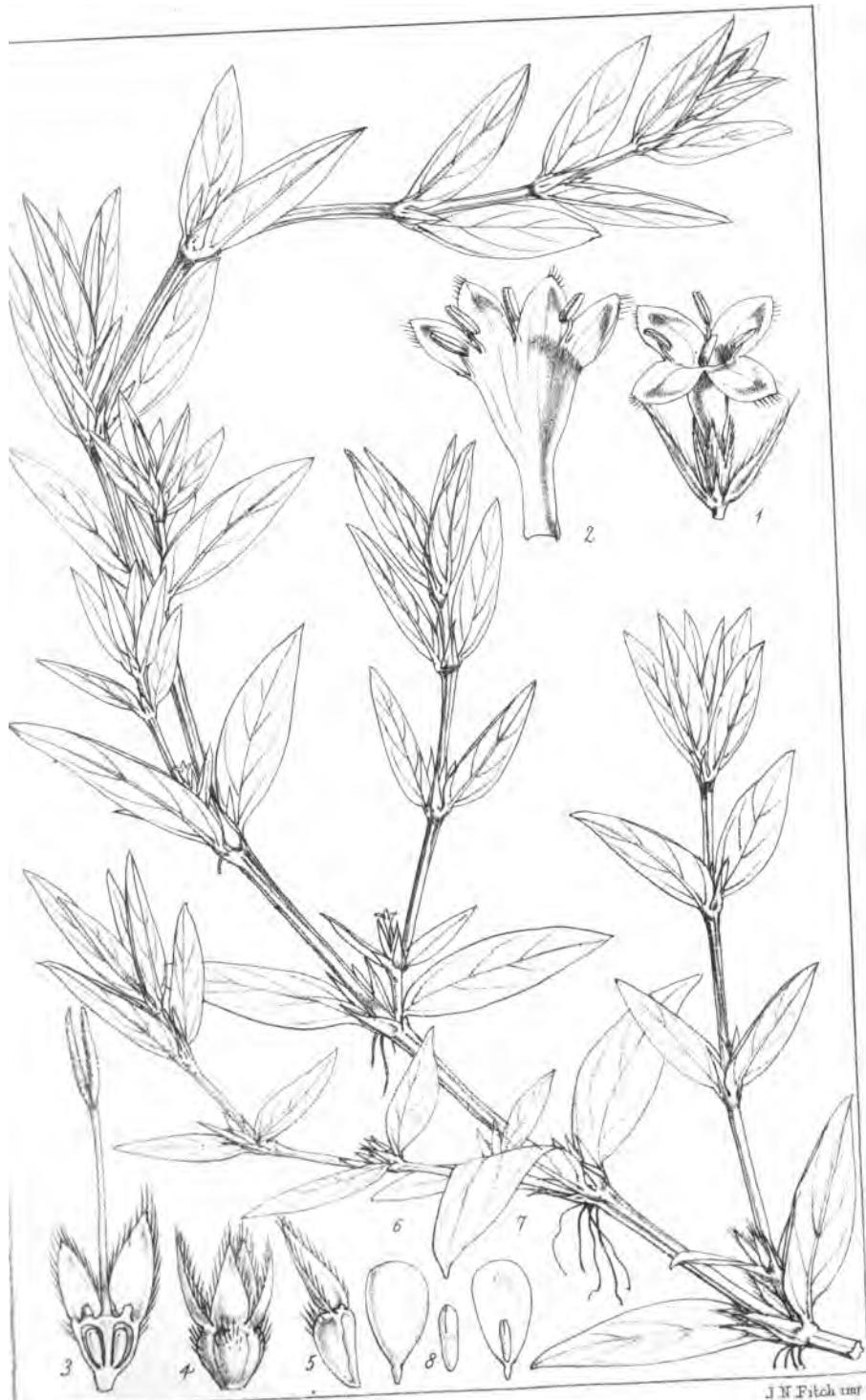




W H Fitch del et linc.

*Corynula pilosa*, Hook. f.

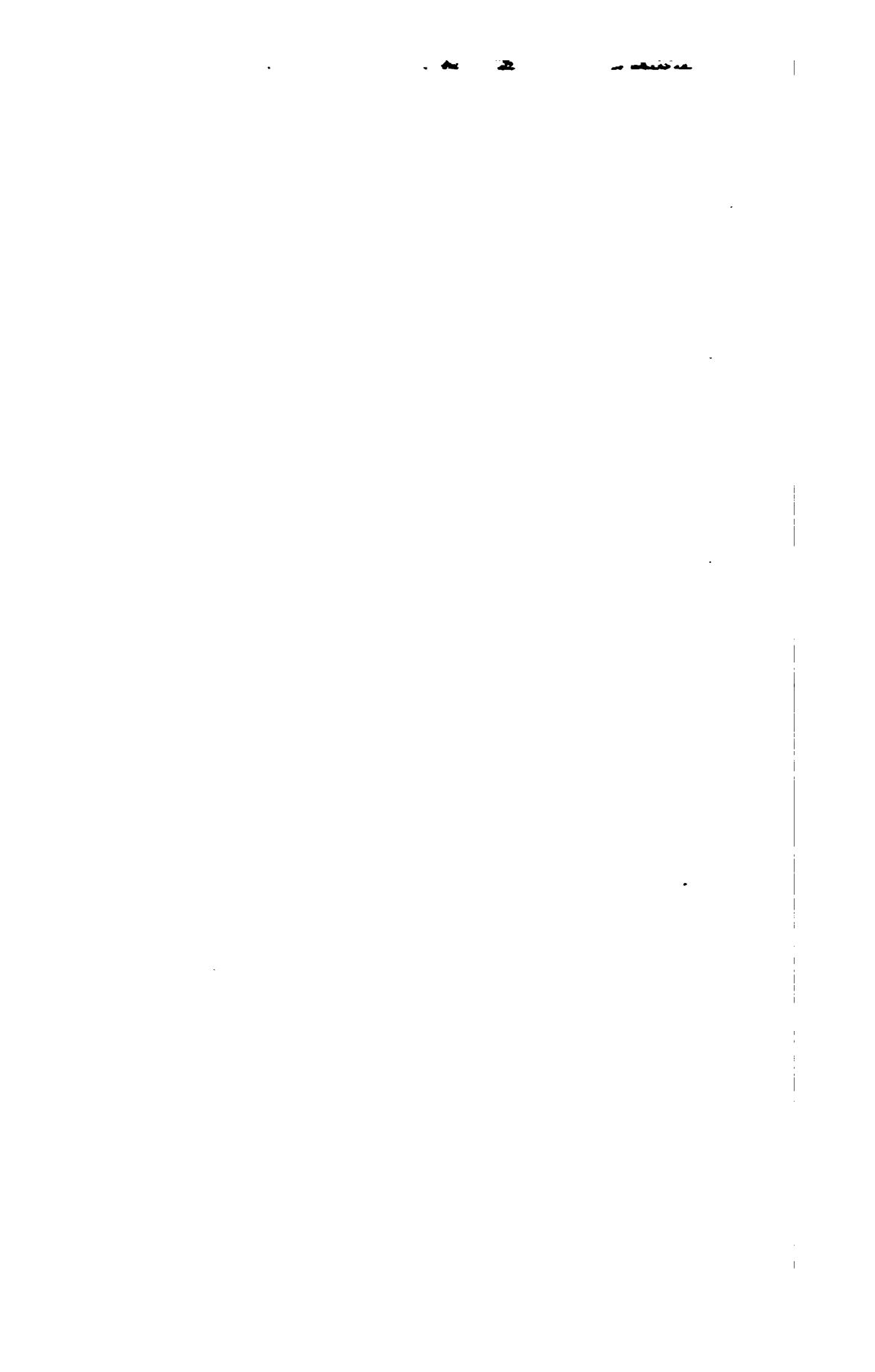




J. N. Fitch tnf

W. H. Fitch del et lith.

*Fergusonia zeylanica*. Hook. f.





W. H. Fitch del. et lith.

J. N. Fitch

*Ceratopyxis verbenacea*. Hook. f.

—

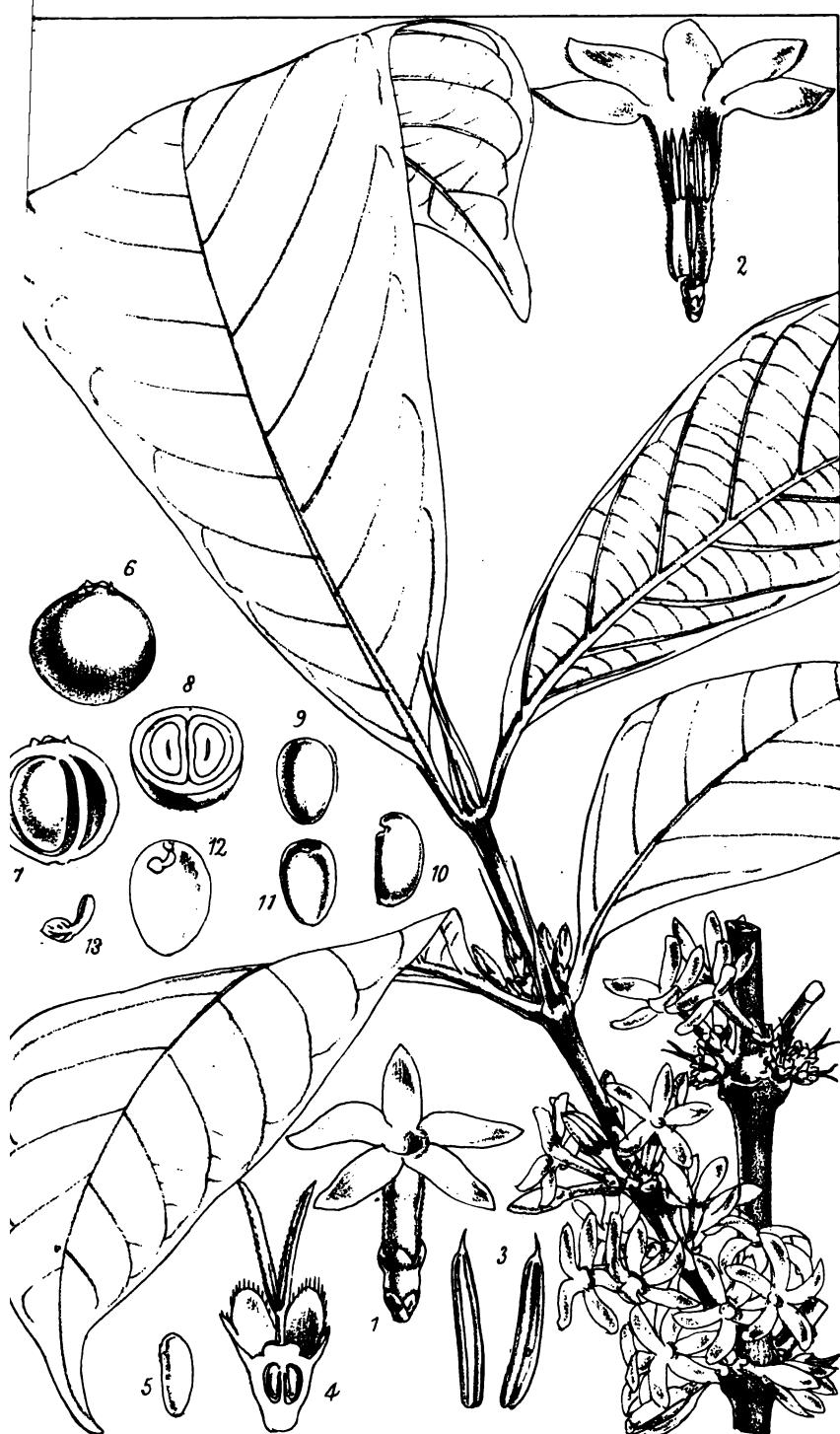


W.H. Fitch del. et lith.

J.N. Fitch imp.

*Aulacocalyx jasminiflora*, Hook. f.





H. Fitch del. et nth.

J. N. Fitch imp.

Belonophora coffeoides Hook. f.





W.H.Fitch del. et lith.

J.N.Fitch imp.

*Omaloclados colorata, Hook. f.*



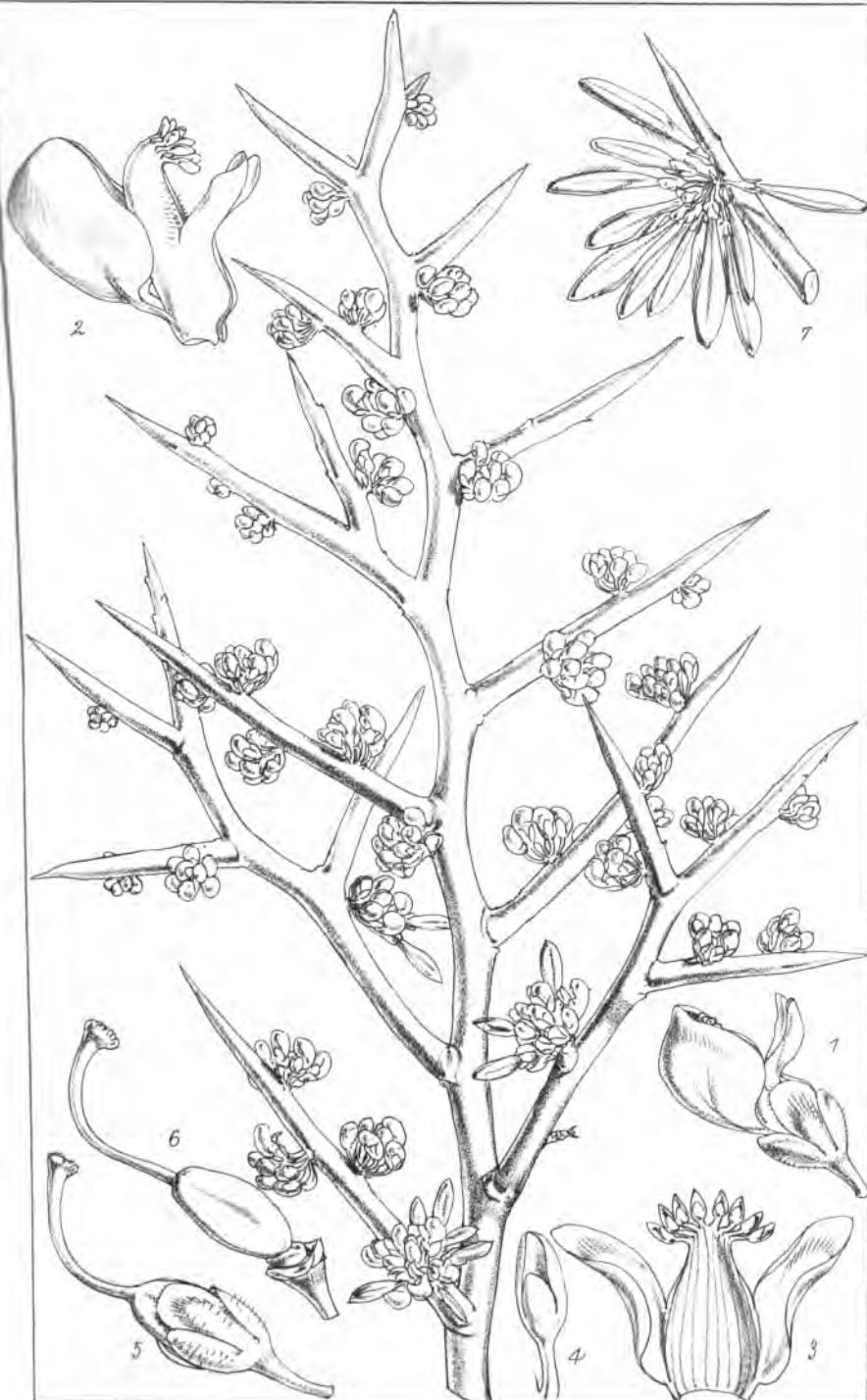


W.H.Fitch del et lith.

J.N.Fitch imp.

*Psilanthes Mannii, Hook. f.*

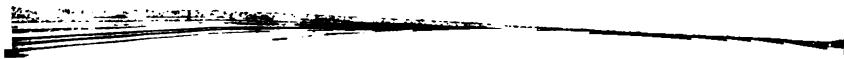




W.H. Fitch del. et lith.

J. N. Fitch imp.

Hualania colletioides Ph.

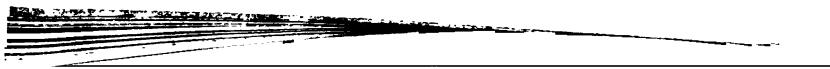


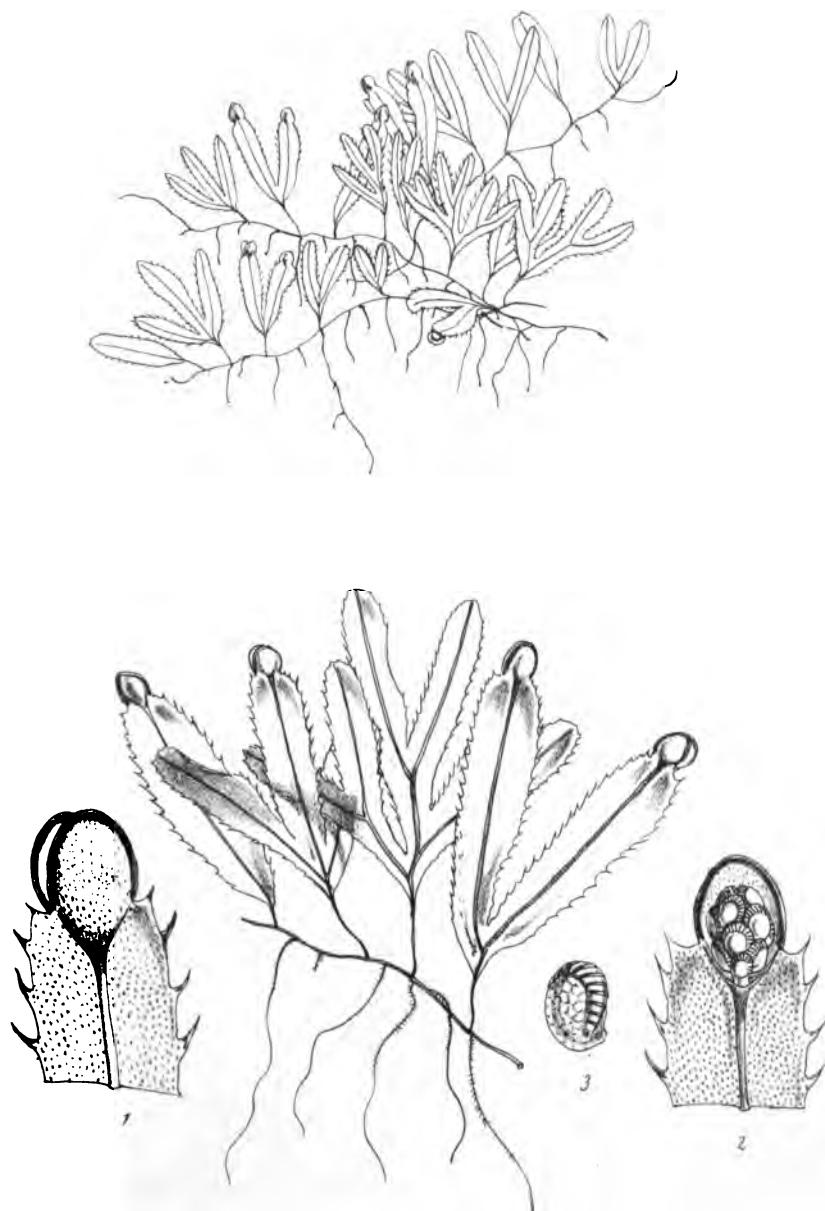


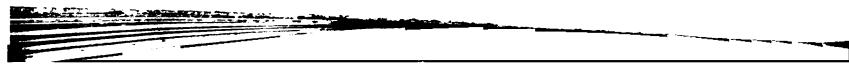
W.H.Fitch del. et imp.

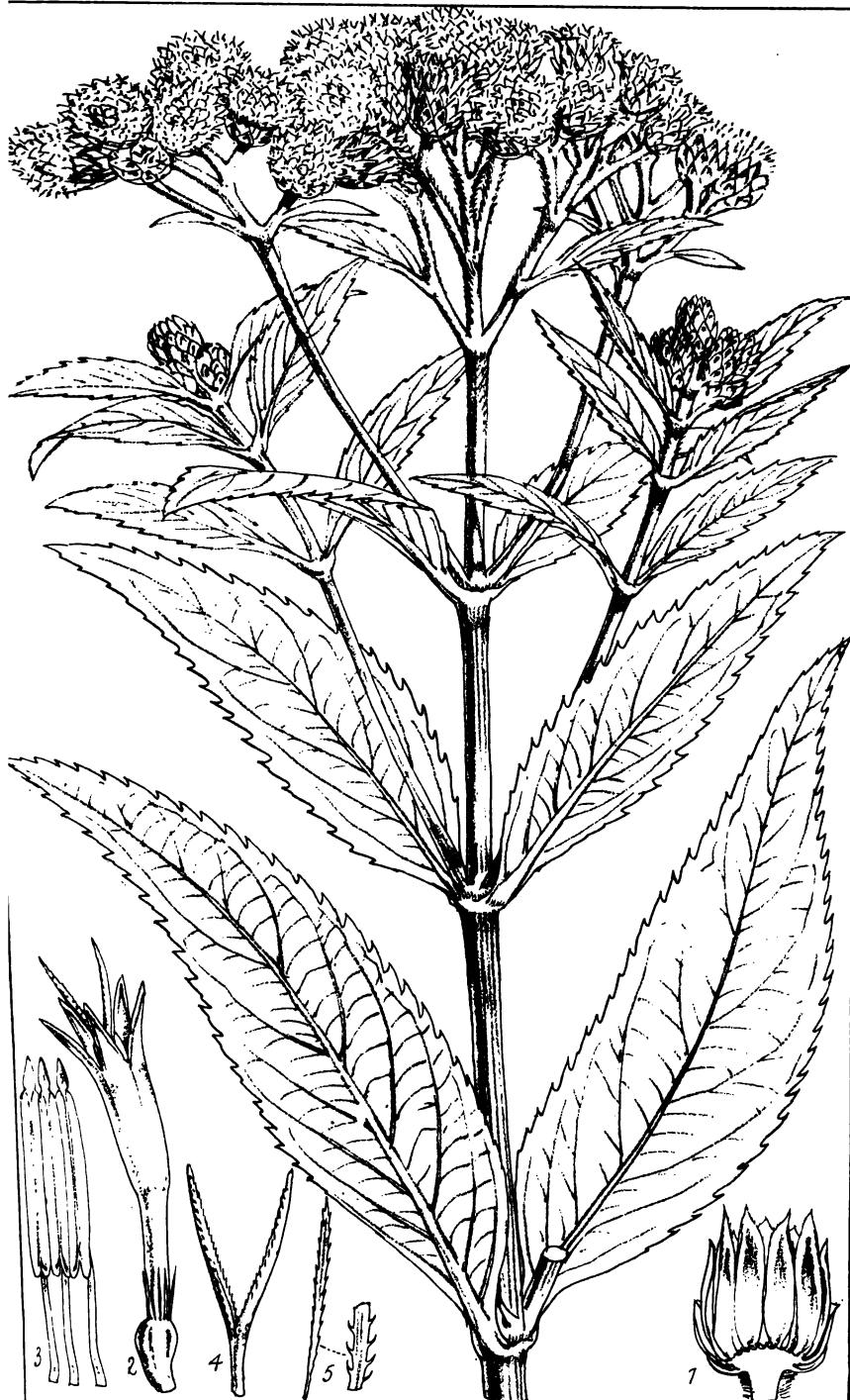
J.N.Fitch imp.

*Hymenocardia ulmoides*, Oliv.







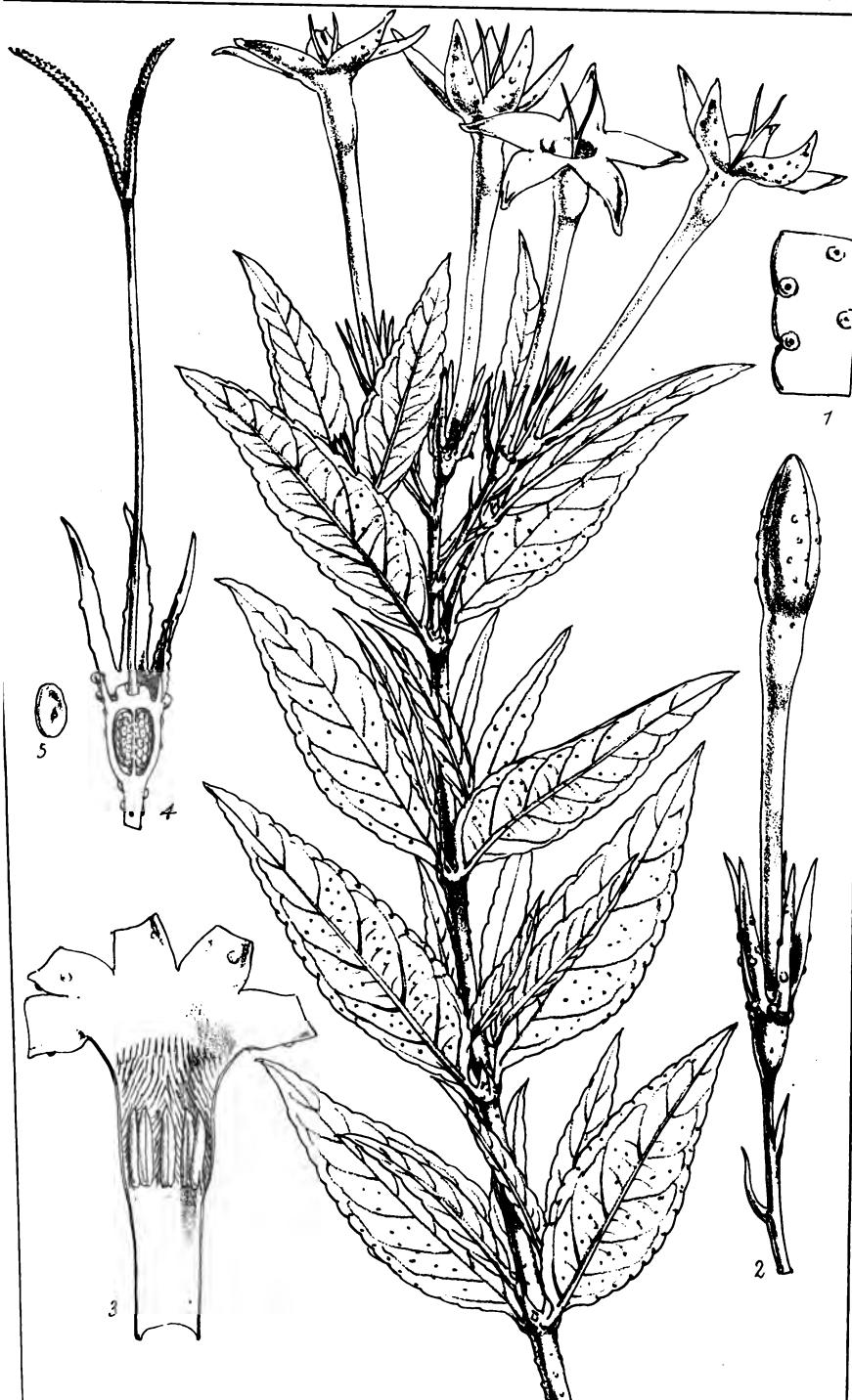


W.H. Fitch del. & lith.

J. N. Fitch imp.

Bothriocline Schimperi, O. & H.

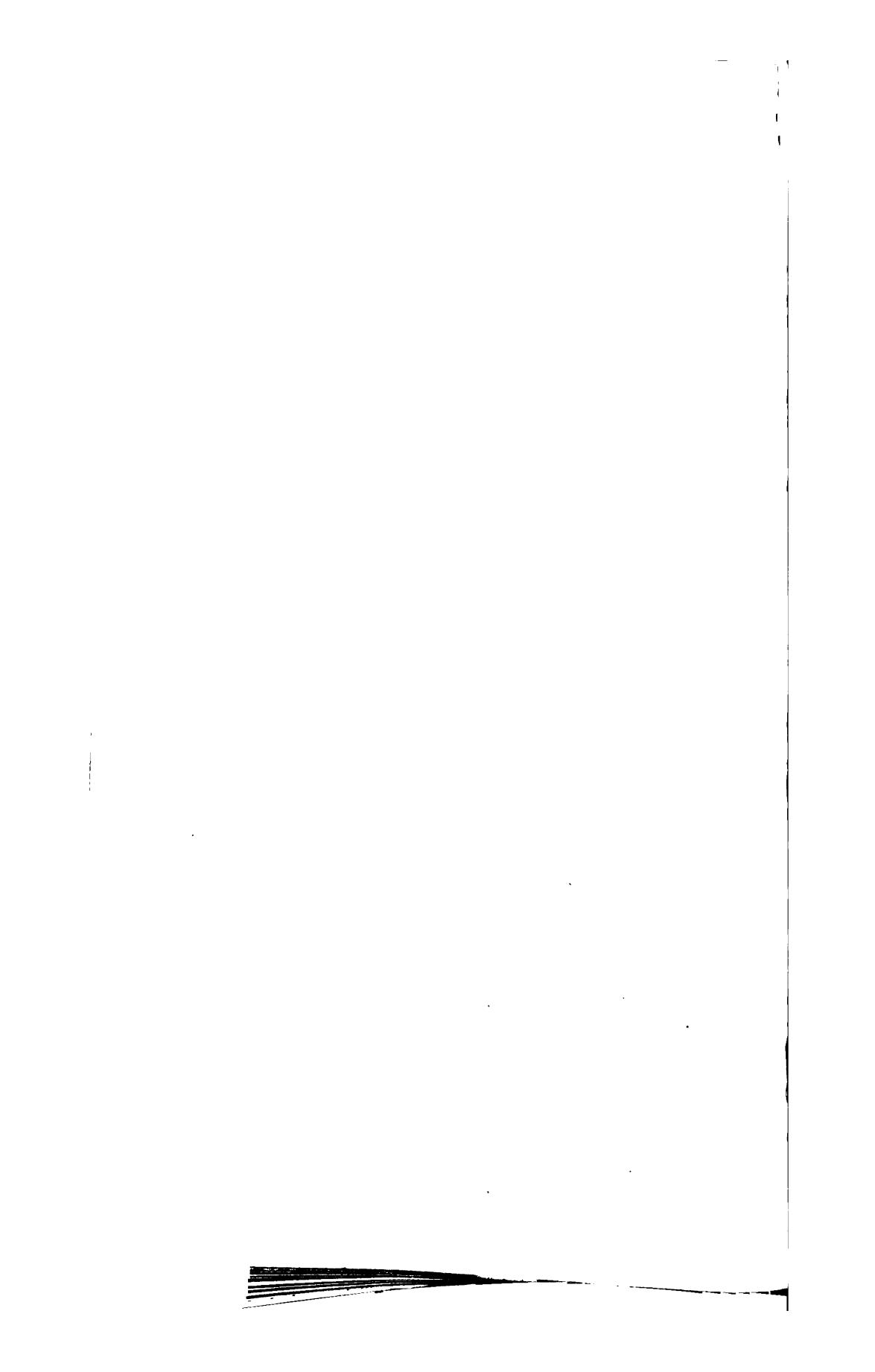




W.H. Fitch del. et lith.

J.N. Fitch imp.

*Heterophyllaea pustulata. Hk f.*

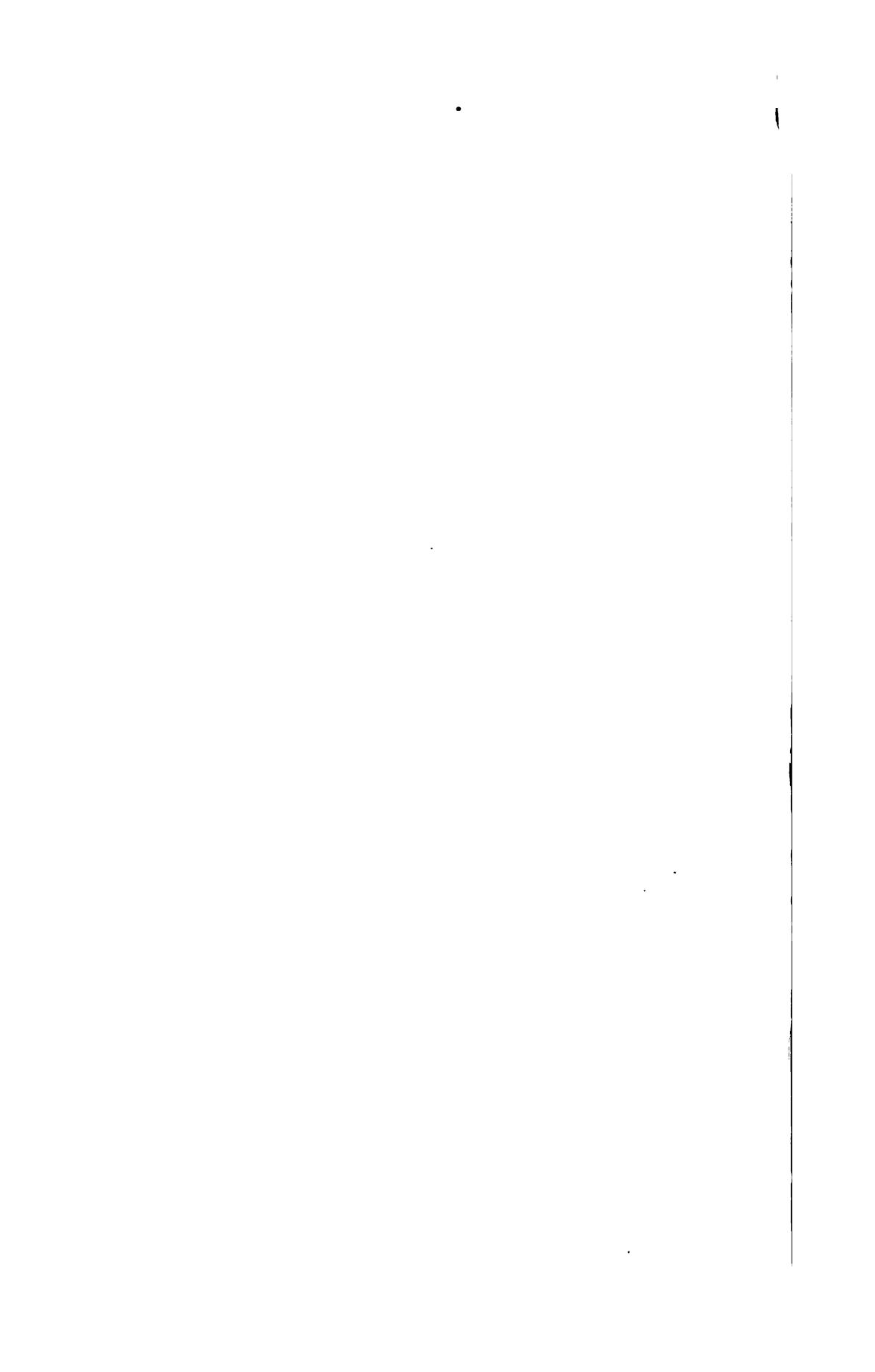


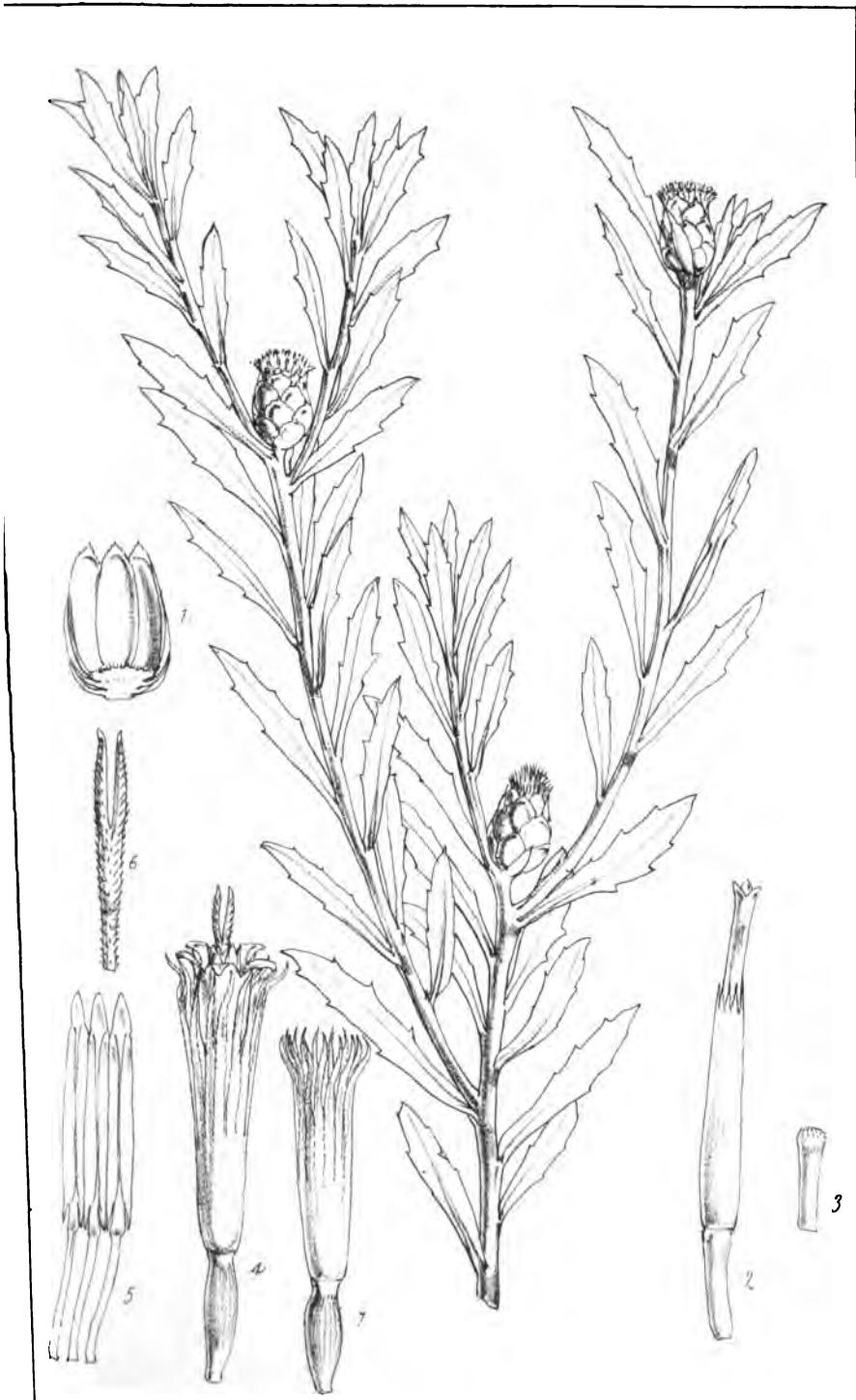


W.H.Fitch del. et id.

J.N.Fitch imp.

*Sphacophyllum Bojeri, Benth.*

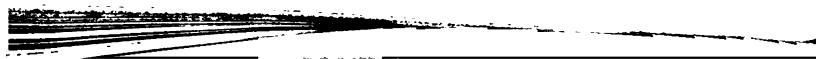


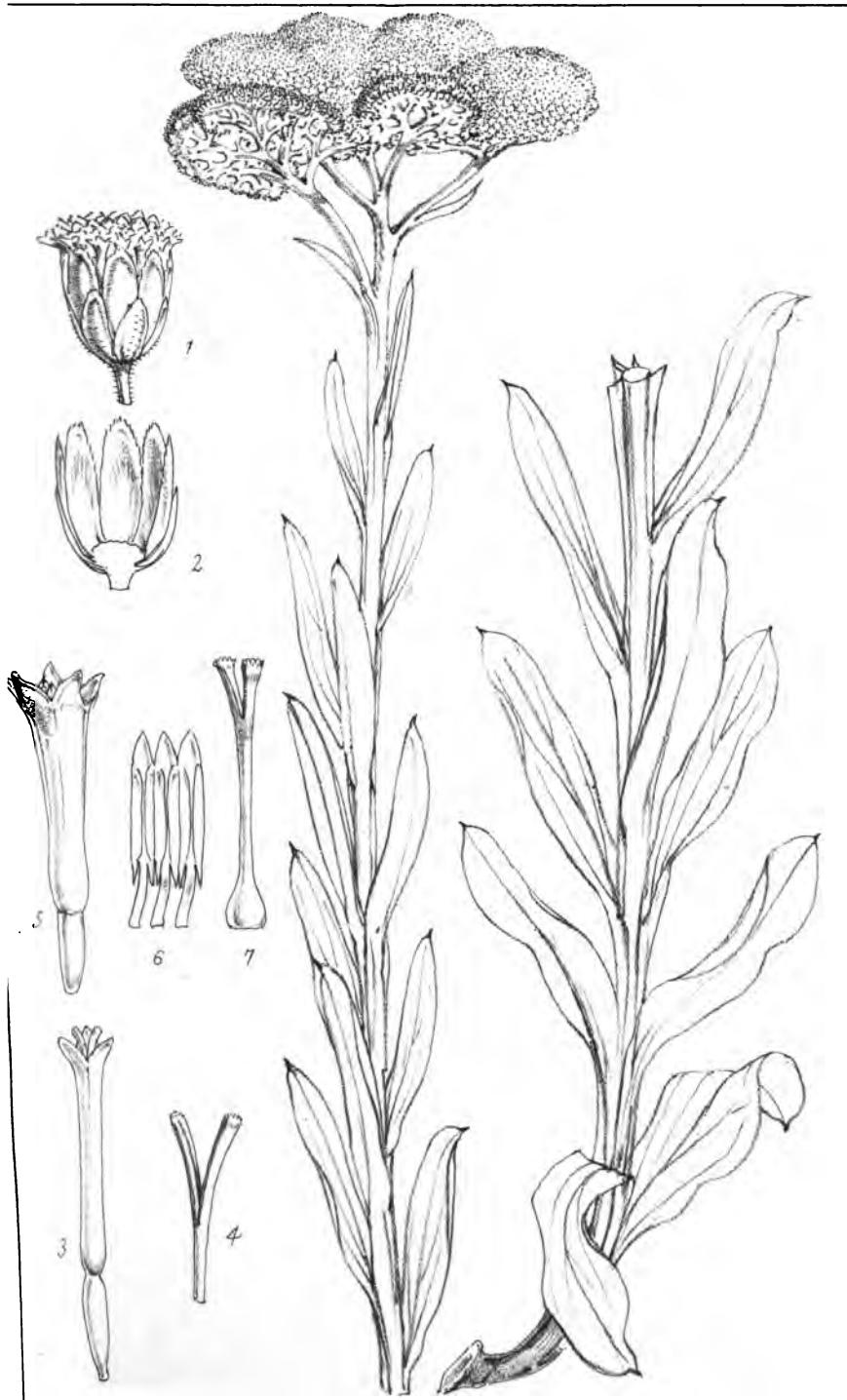


W. H. Fitch del. et lith.

J. N. Fitch imp.

*Coleocoma centaurea*, F. Muell.

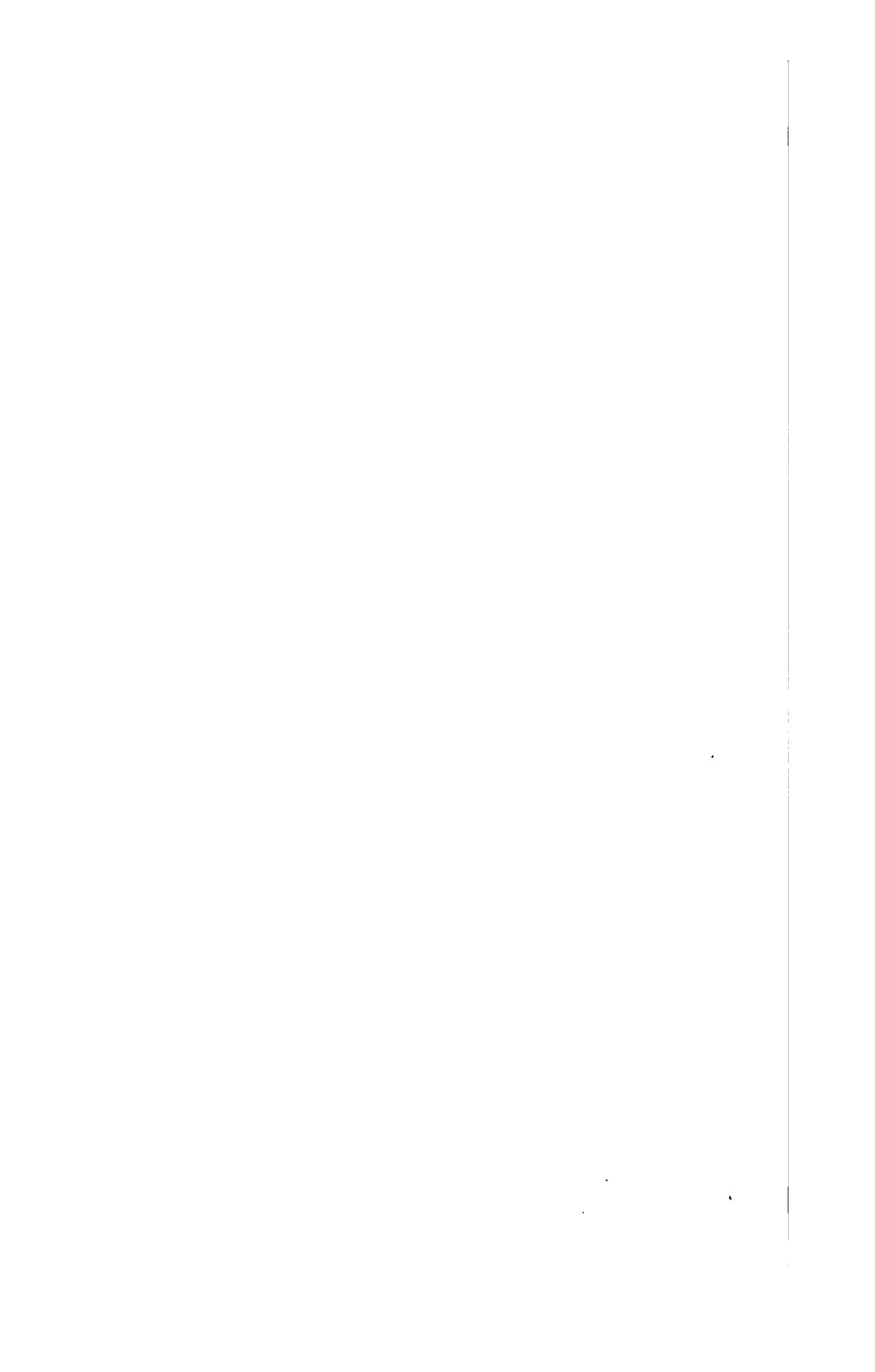




W.H. Fitch del et lith.

J.N. Fitch imp.

*Chiliocephalum Schimperi, Benth.*

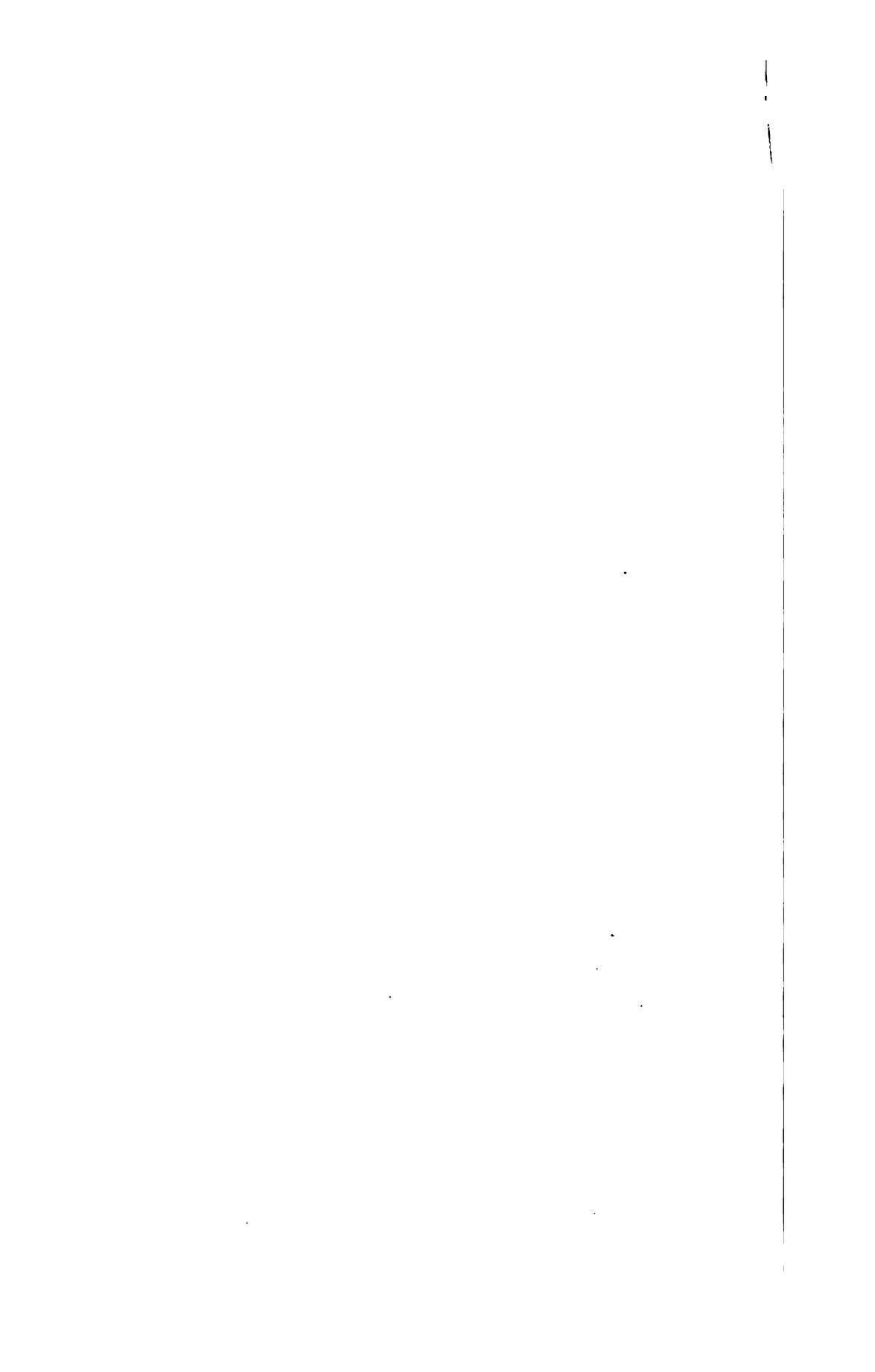


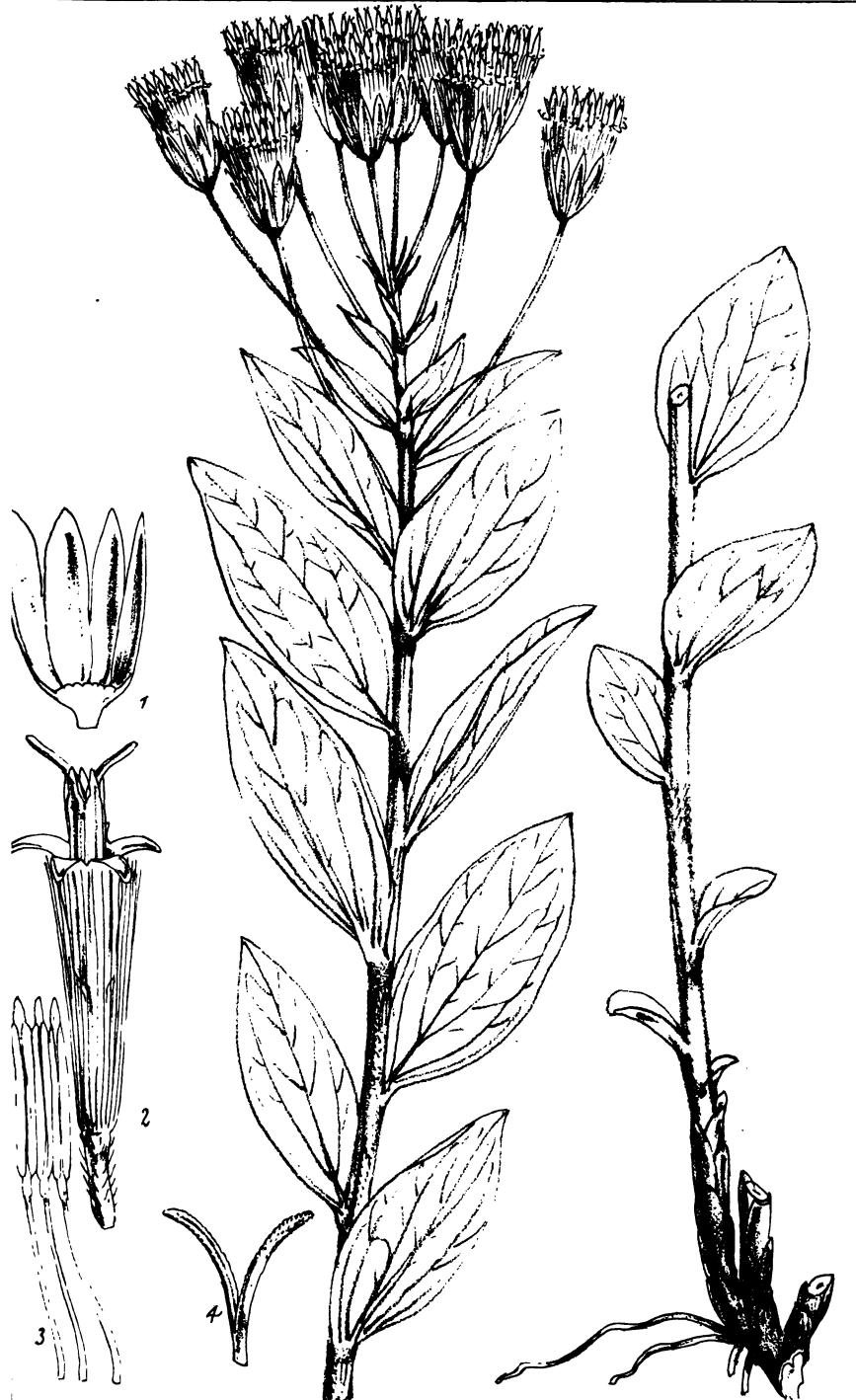


W.H. Pritch del. et lth.

J.N. Pritch imp.

*Denekia capensis*, Thunb.

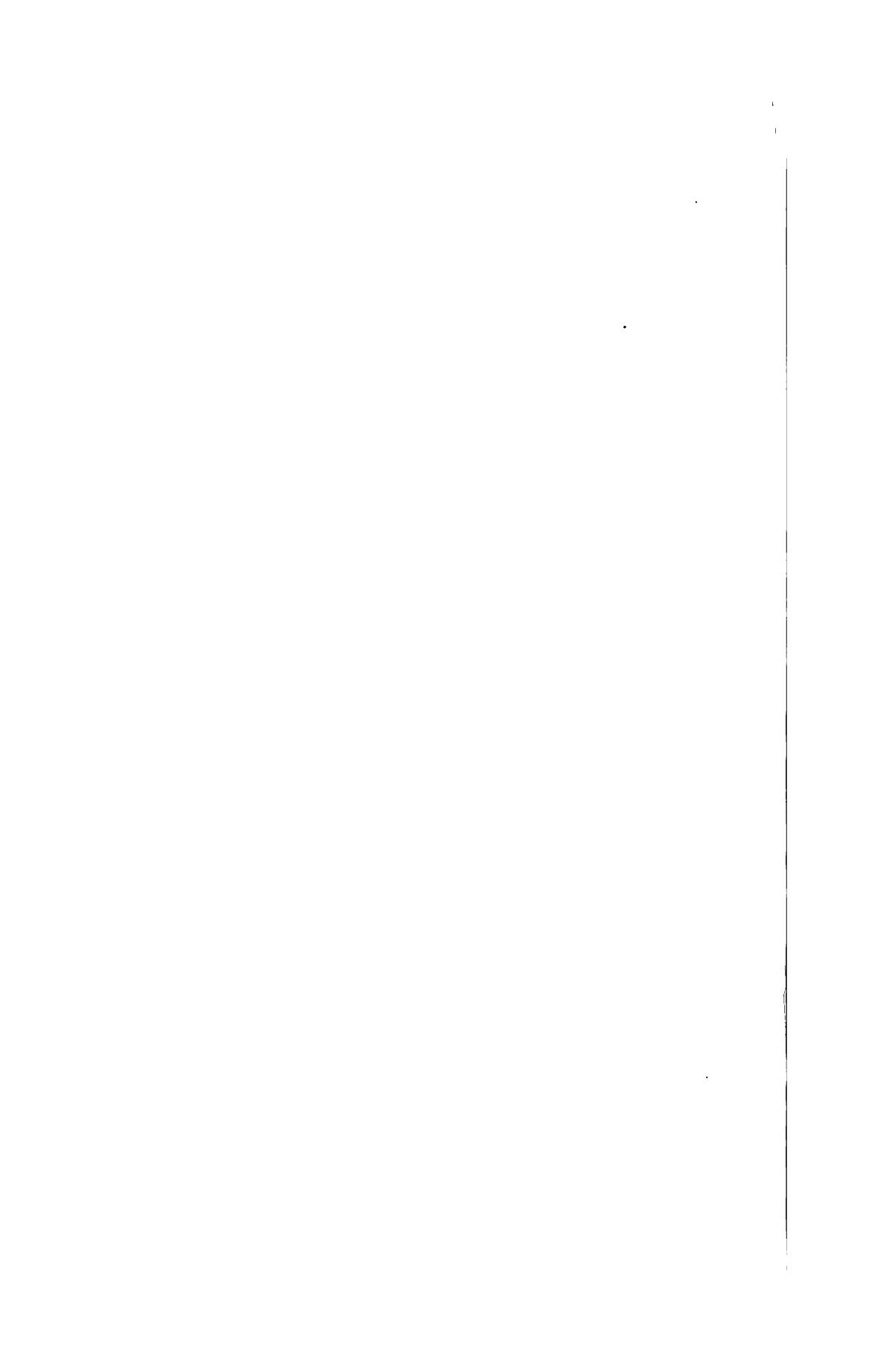


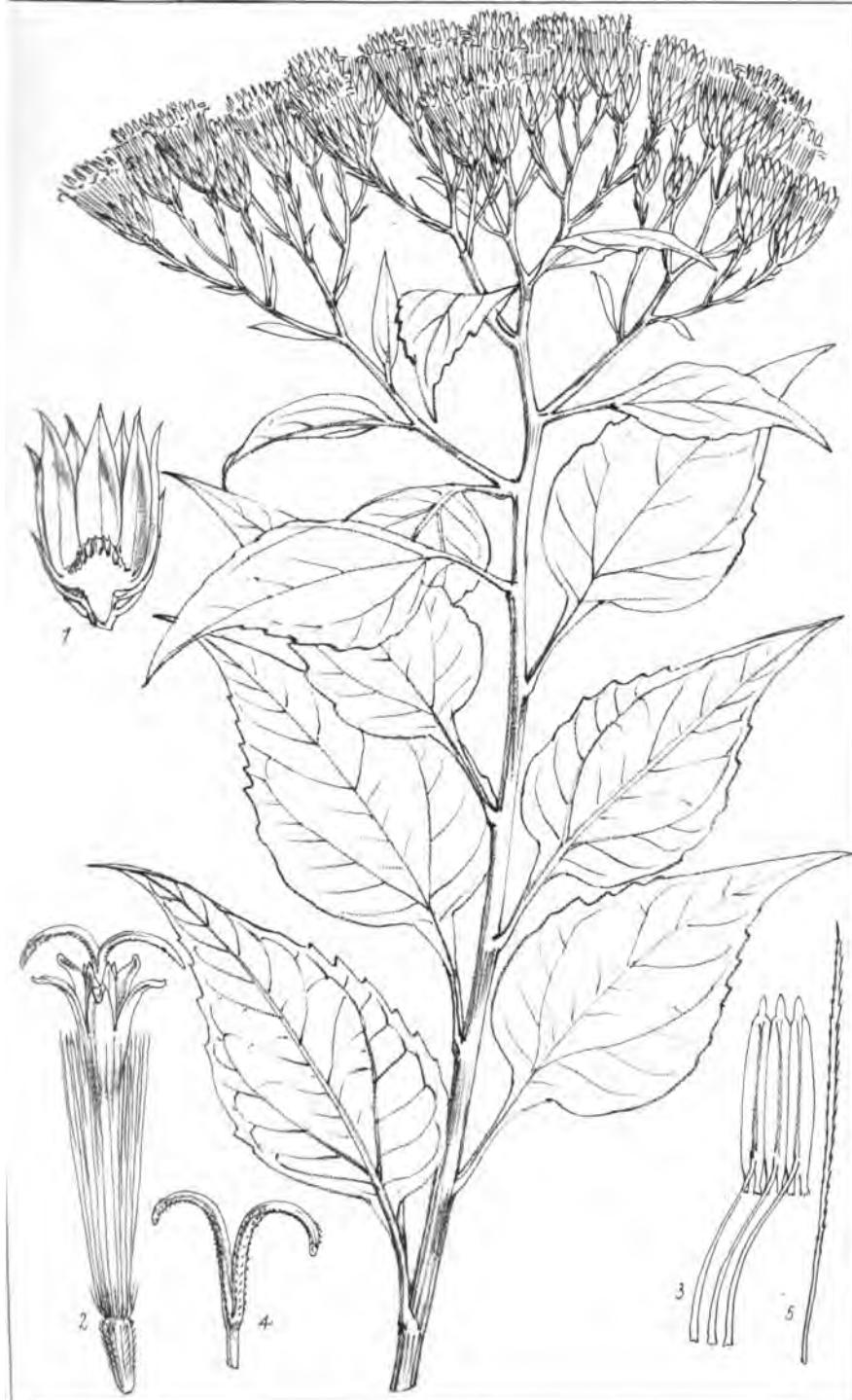


W H Fitch del et lith

J N Fitch imp

Luina hypoleuca, Benth





W.H. Fitch del et lith.

J.N. Fitch imp.

*Gongrothamnus divaricatus, Steetz.*

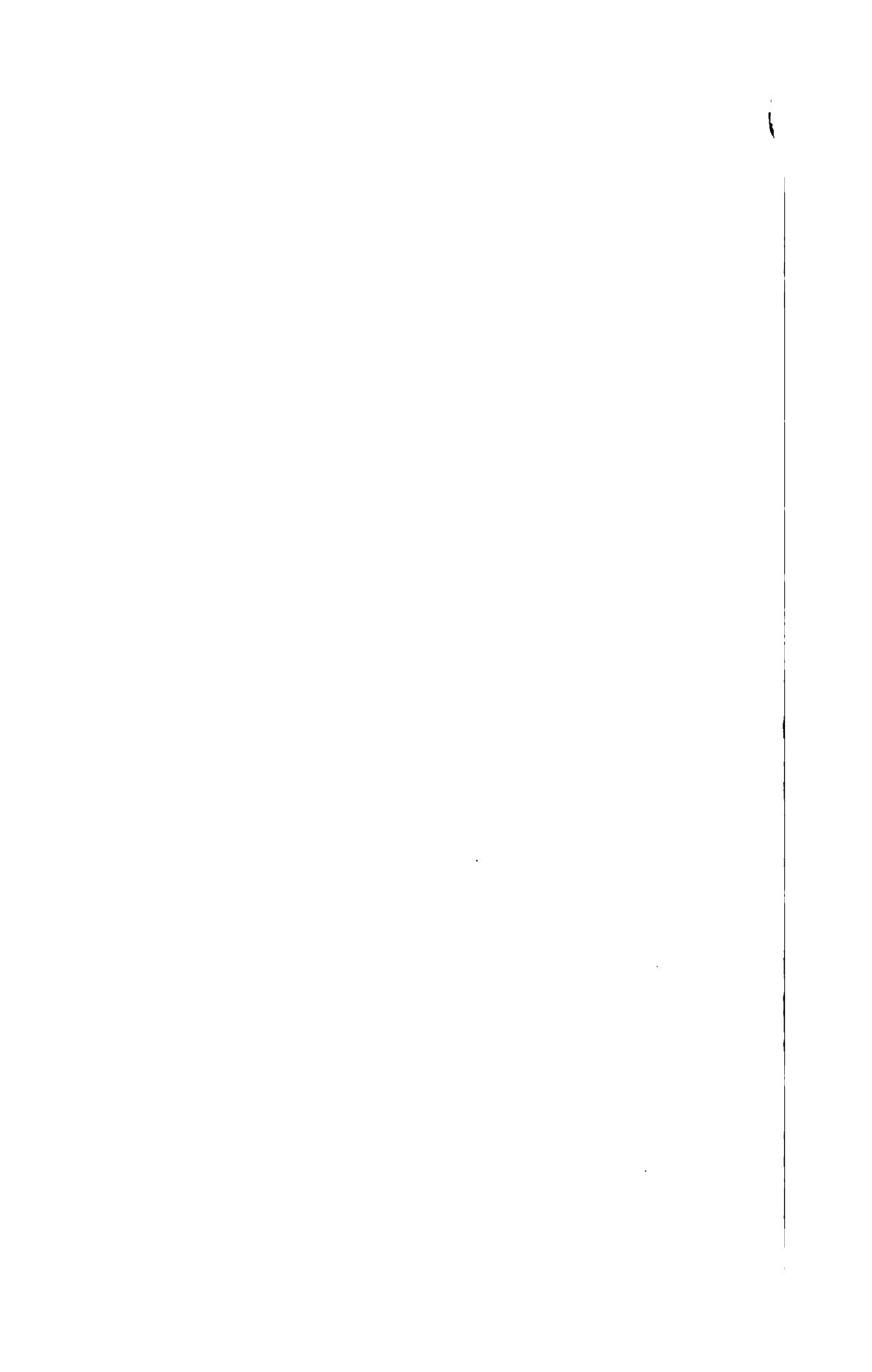


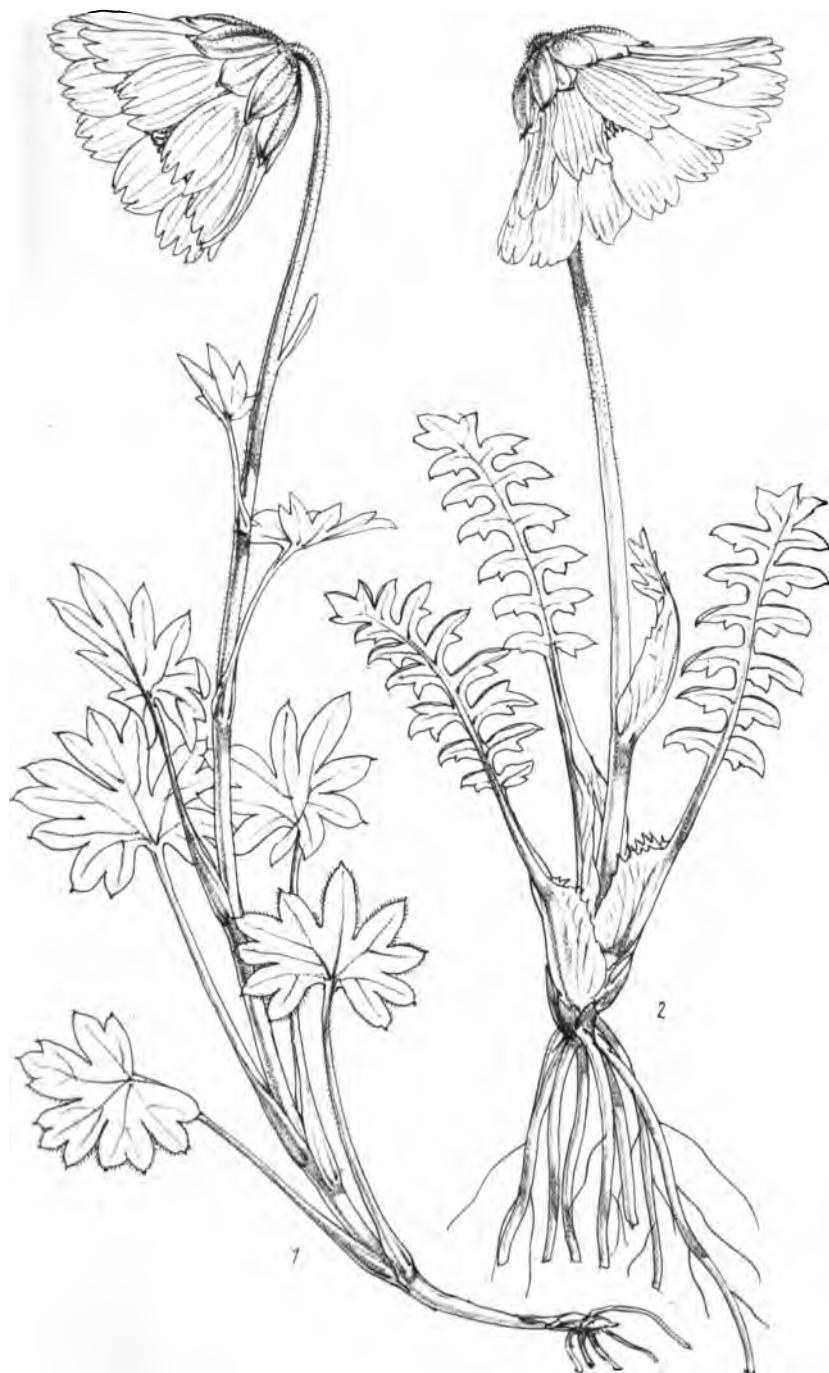


N. H. Fitch del et lith.

J. N. Fitch imp.

*Cremanthodium reniforme*, Benth.





W. H. Fitch del. et lith.

J. N. Fitch imp.

1. *Cremanthodium palmatum*, Benth.

2. *Cremanthodium pinnatifidum* Benth.

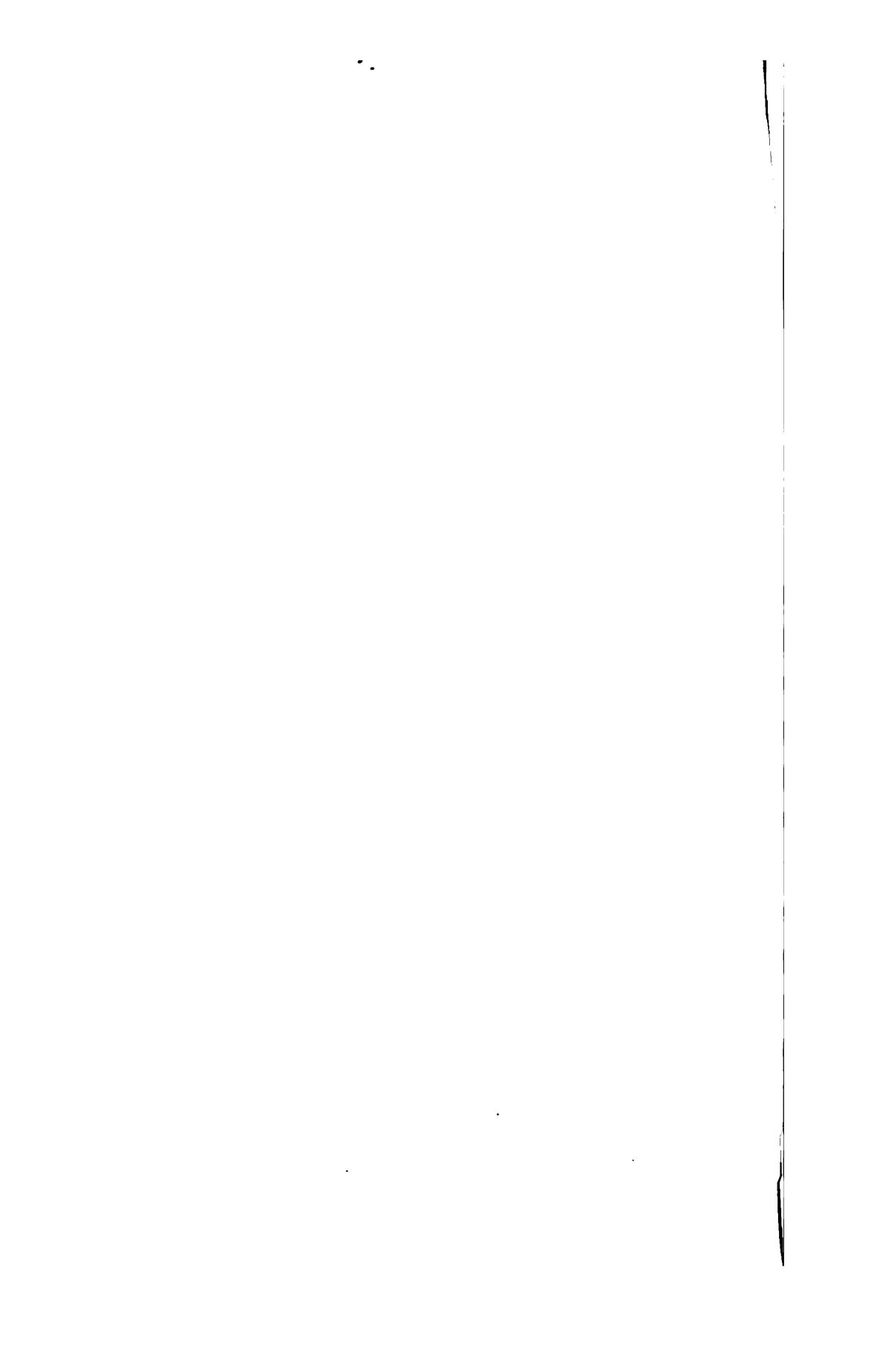


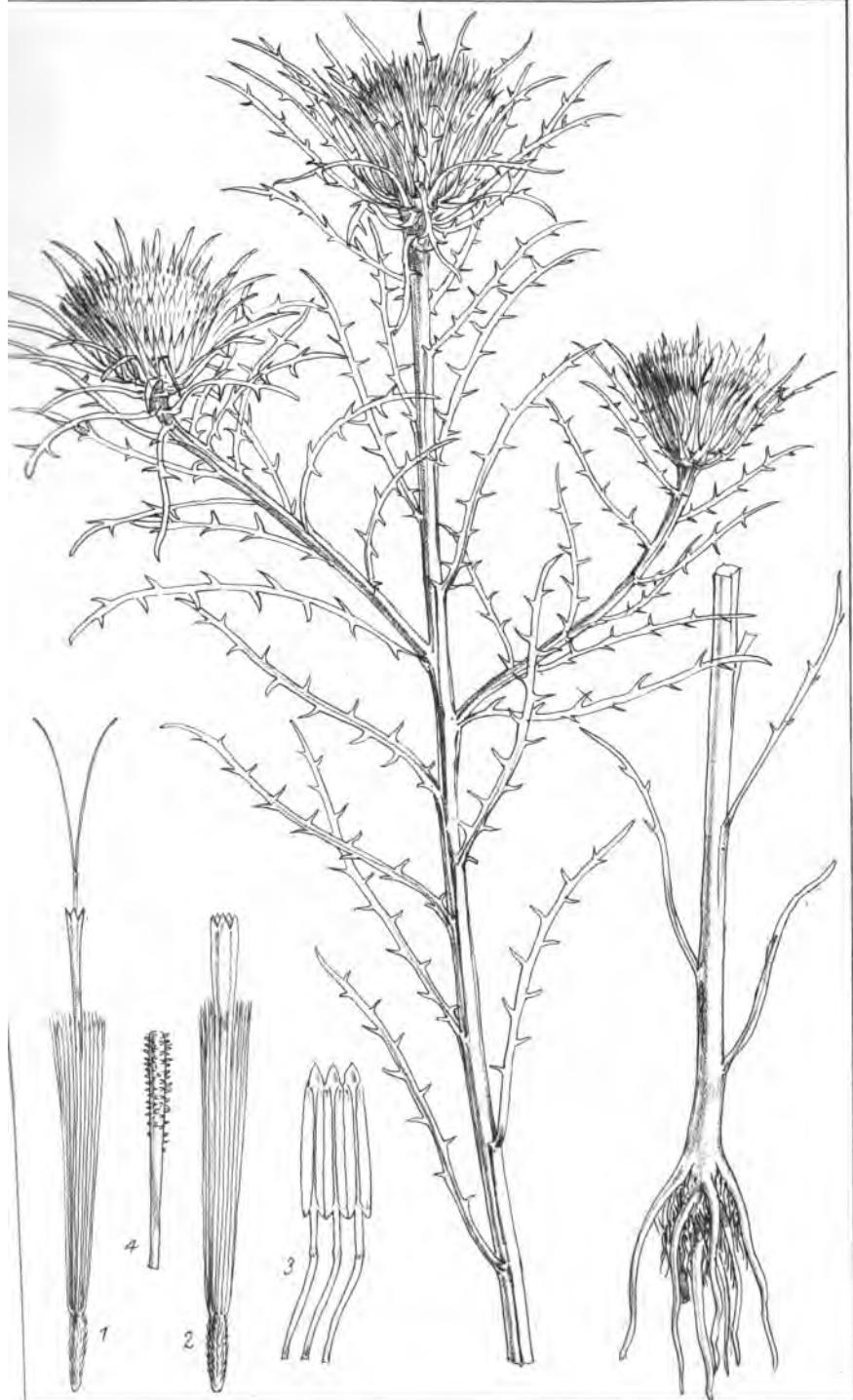


W.H. Pitch del. et lith.

J.N. Pitch imp.

*Thespidium basiflorum*, F. Muell.



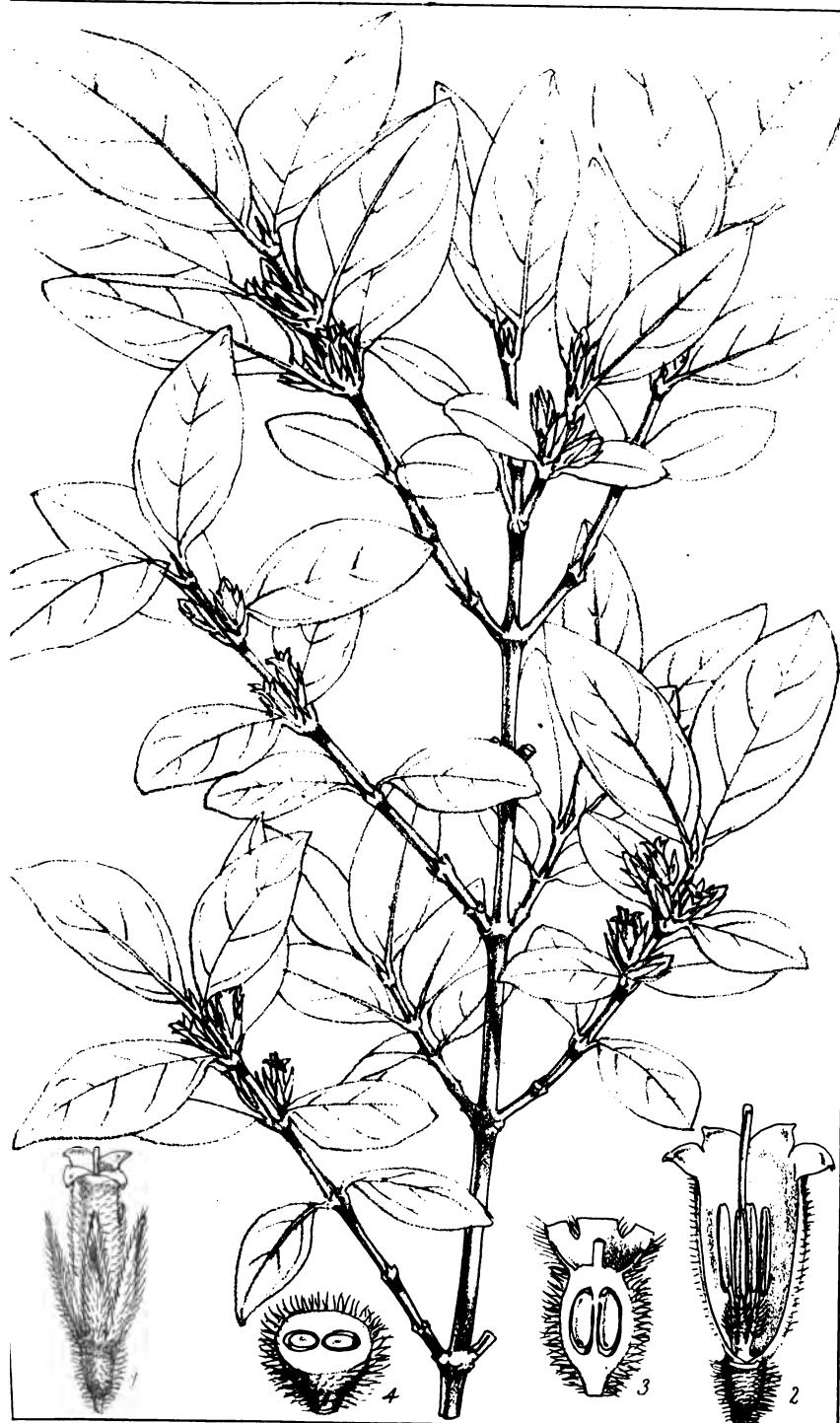


W. H. Fitch del. et lith.

J. N. Fitch imp.

*Adelostigma senegalensis, Benth.*



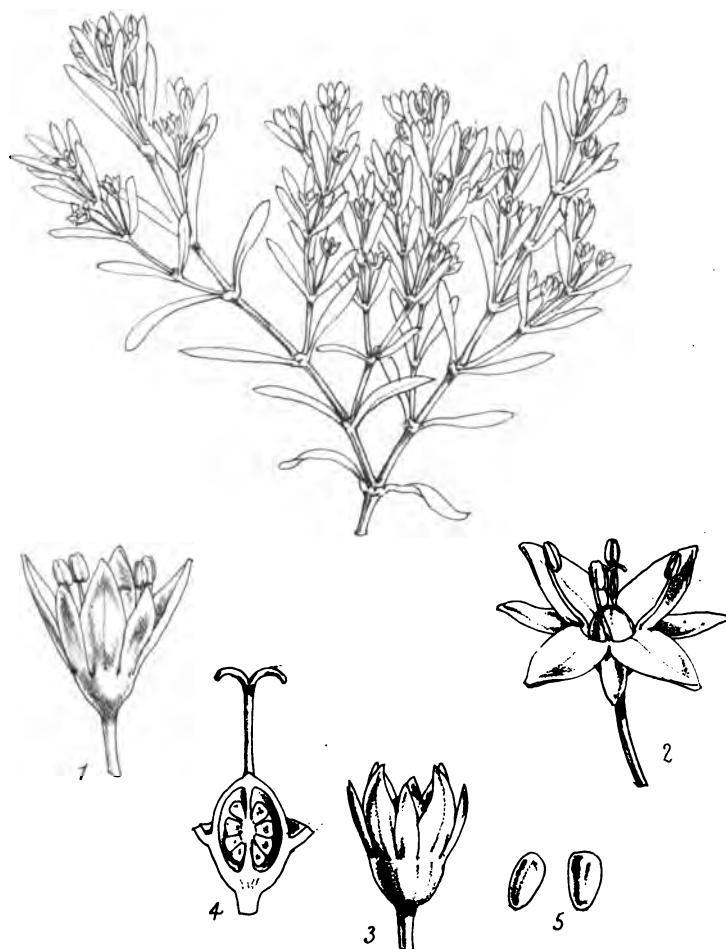


W.H. Pitch del. lith.

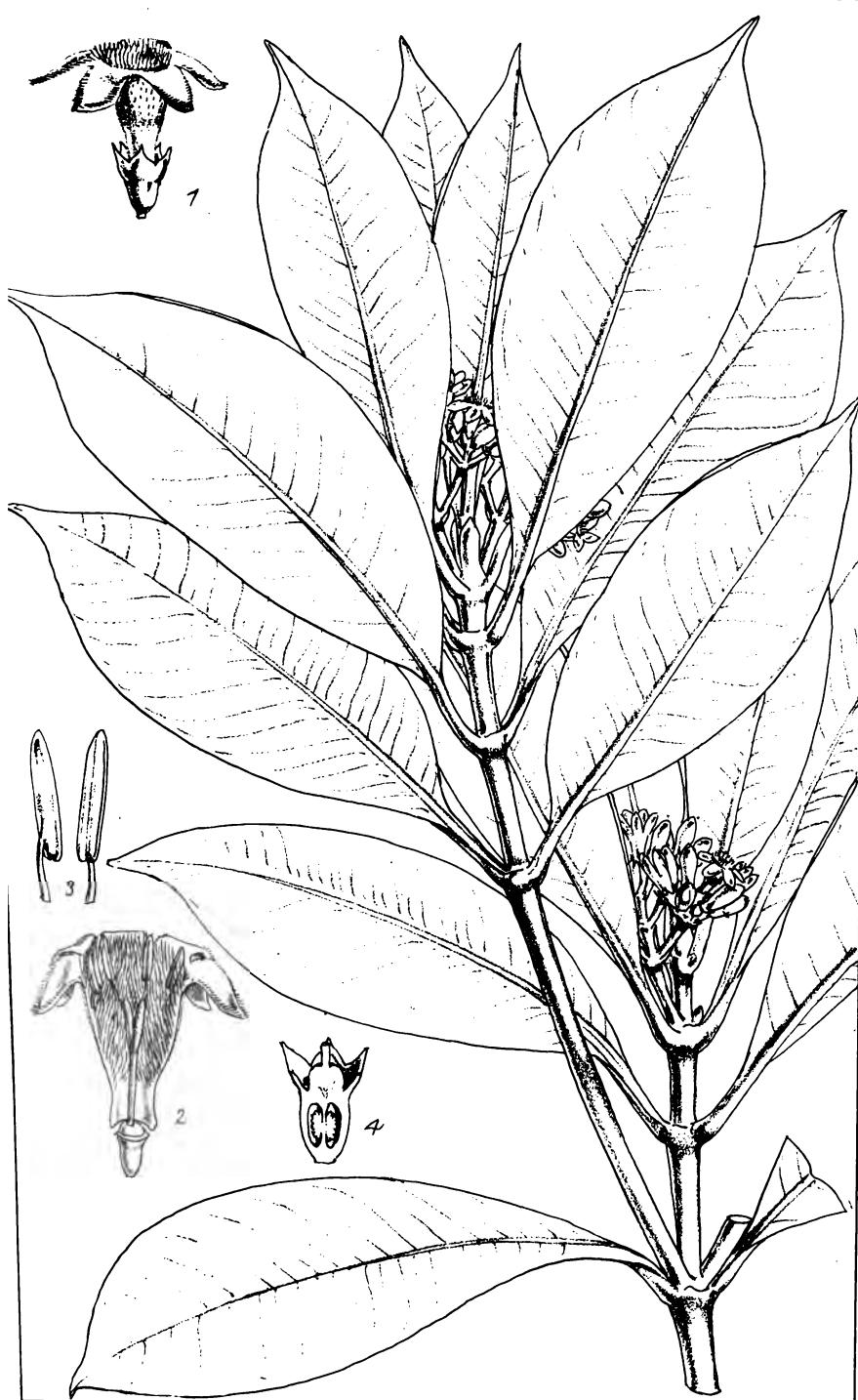
J.N. Fitch.

*Asemnanthe pubescens, Hook. fil.*





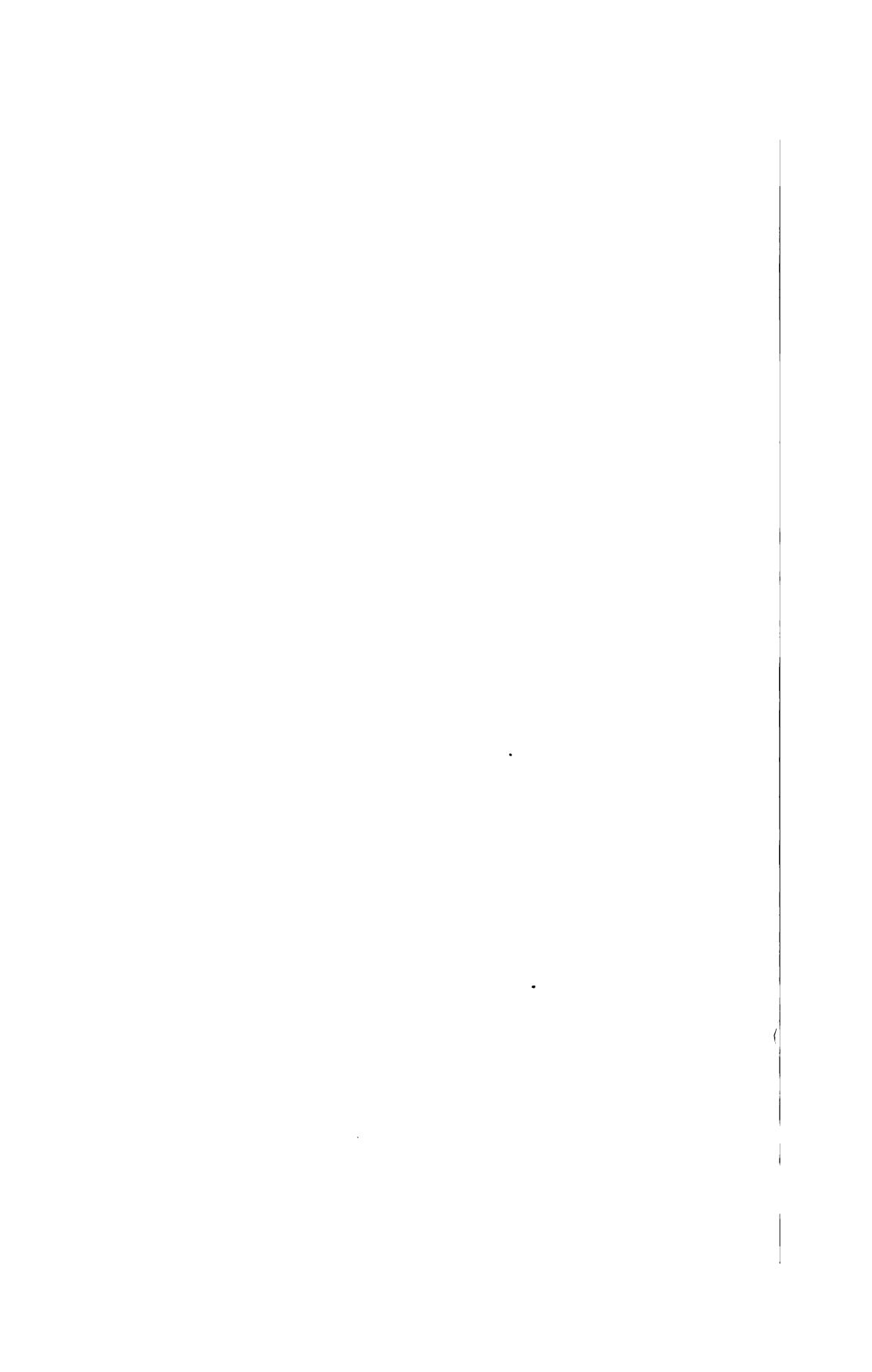




W. H. Fitch del. et lith.

J. N. Fitch imp.

Stilpnophyllum lineatum. Hook. f.

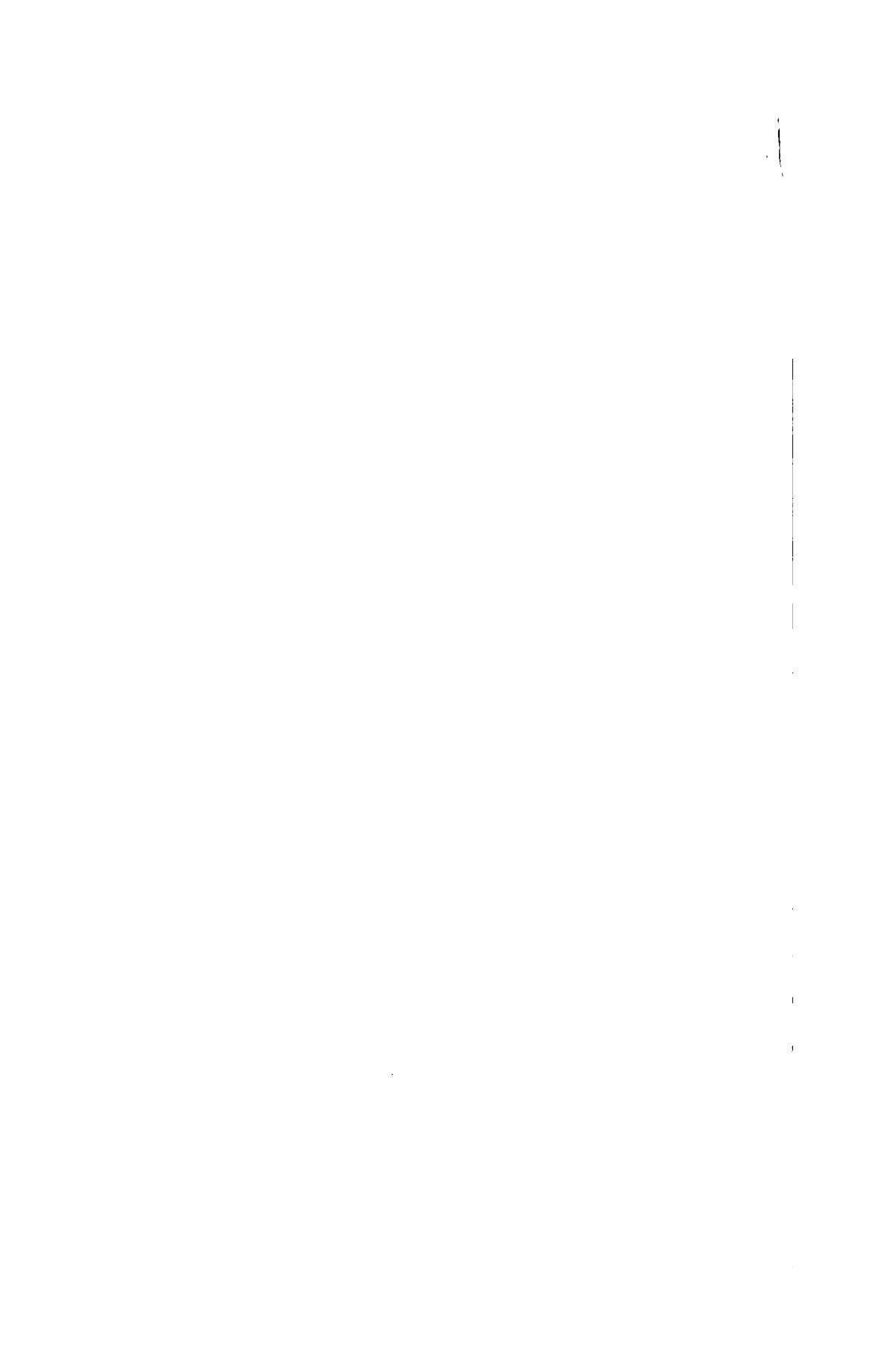


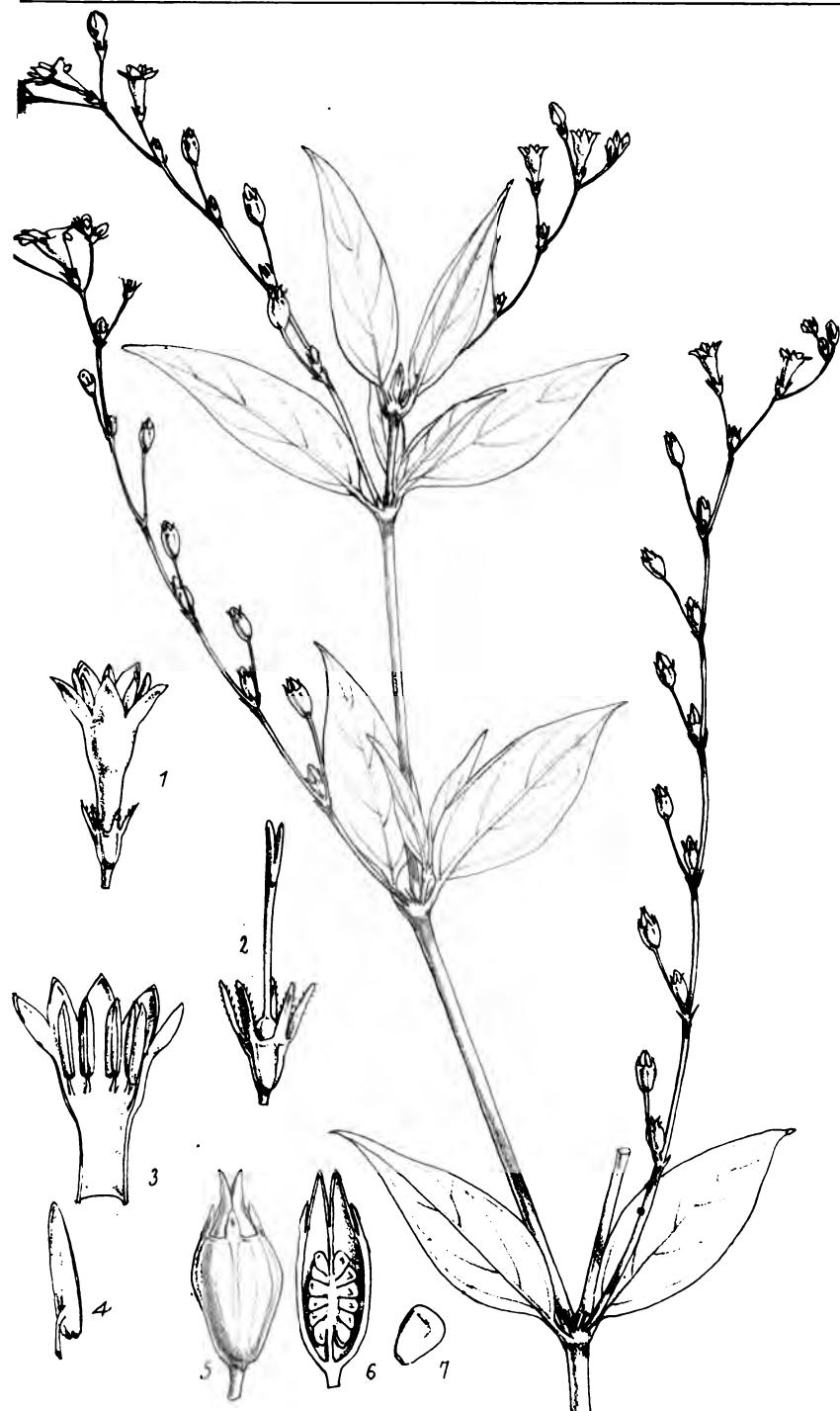


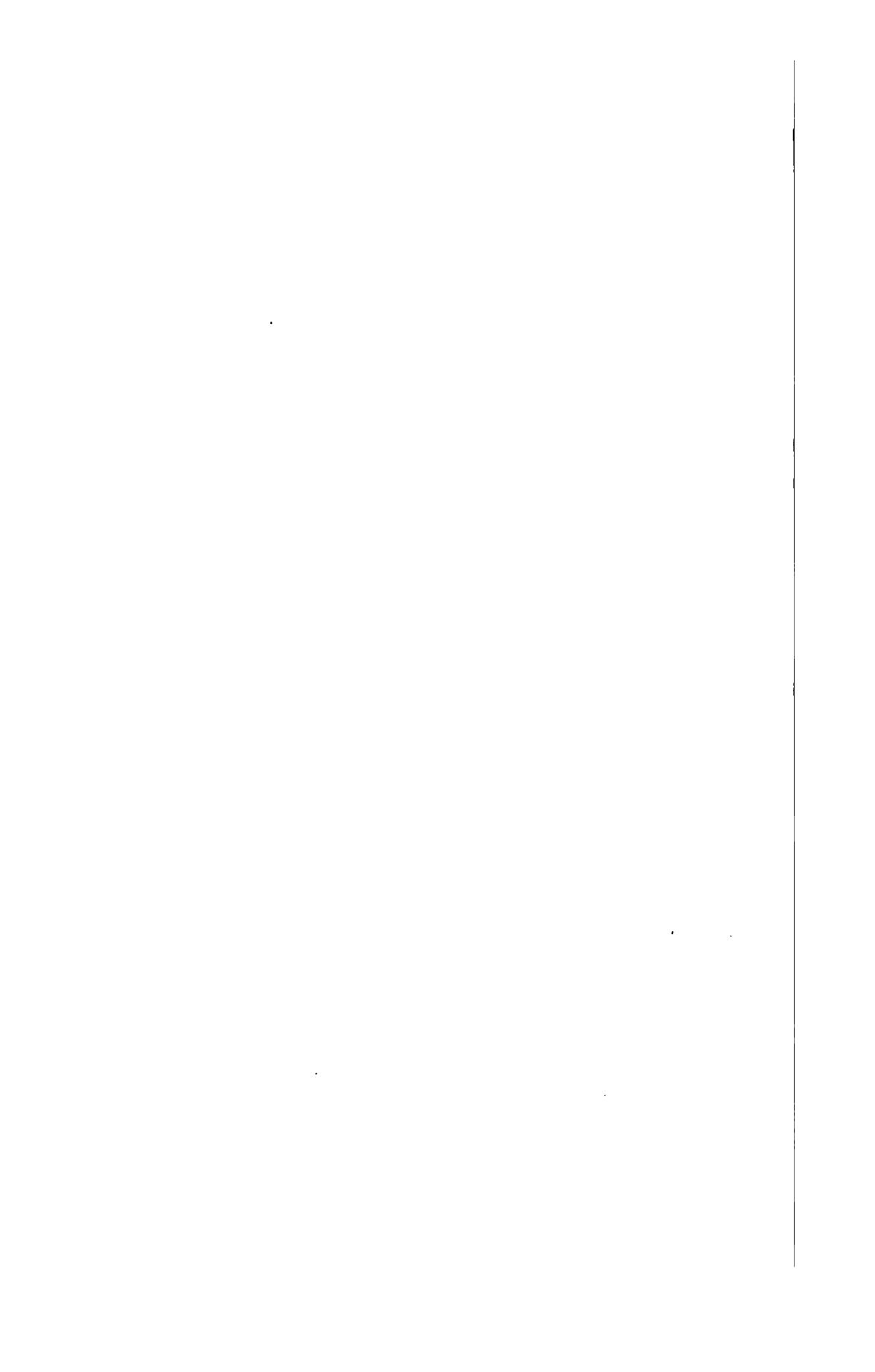
"In the collection of J. N. Fitch.

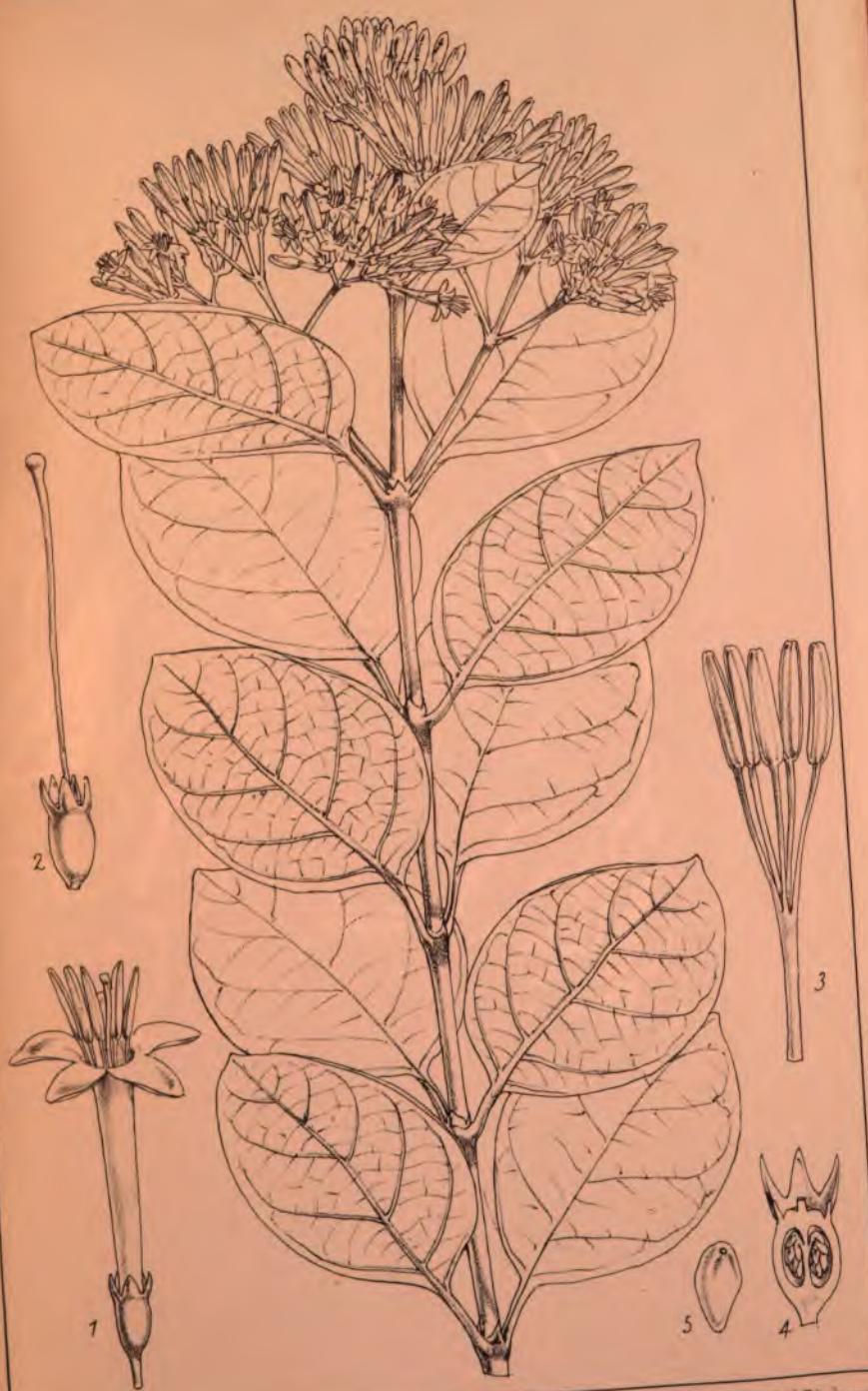
J. N. Fitch imp.

*Chalepophyllum guyanense* Hook. fil.





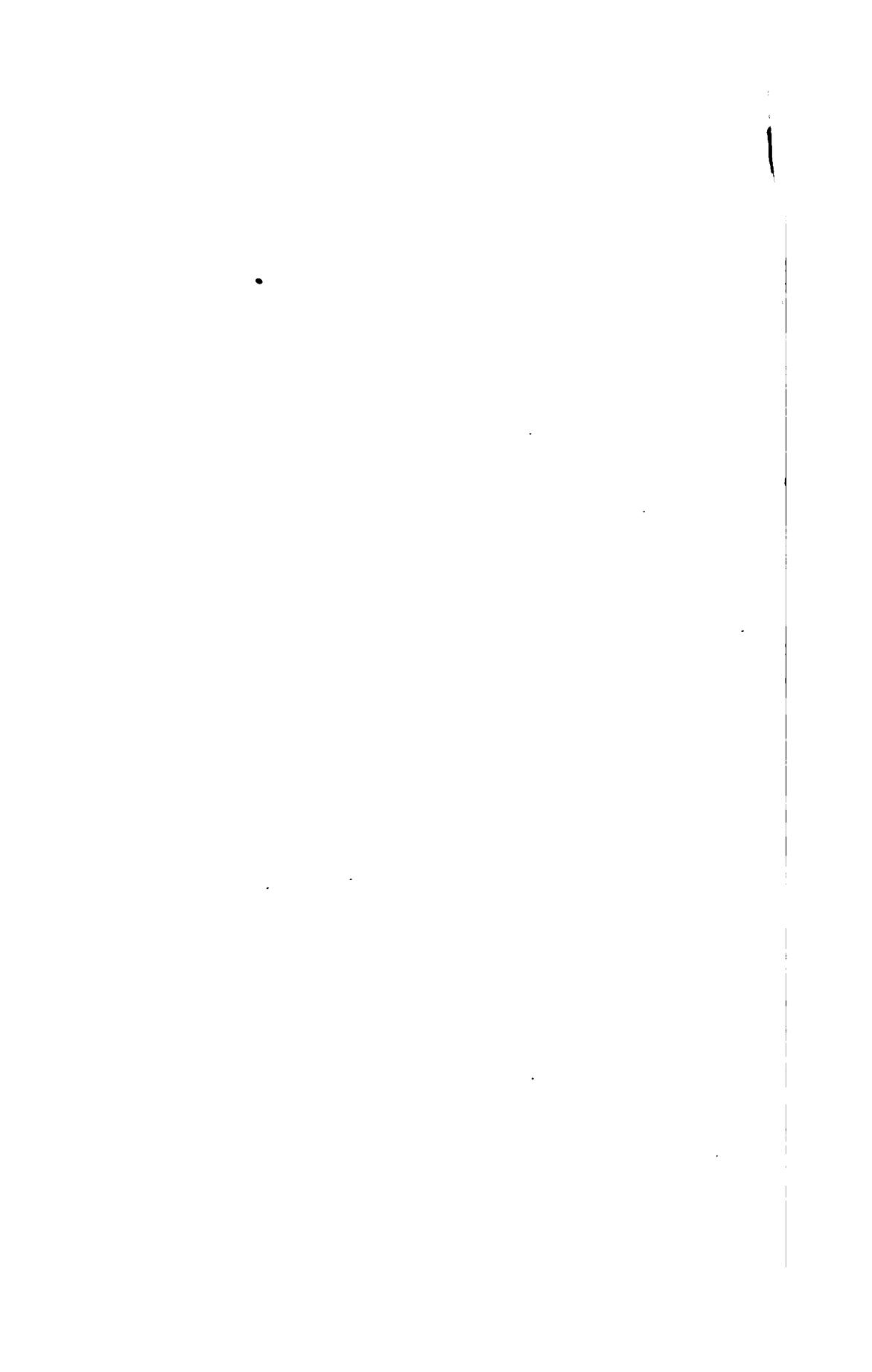




W. H. Fitch del. et lith.

Solenandra ixorioides Hook. fil.

J. N. Fitch imp.









W.H. Hitch del. et lith.

J. N. Pitt

*Salmeopsis Glaussenii* Renth.

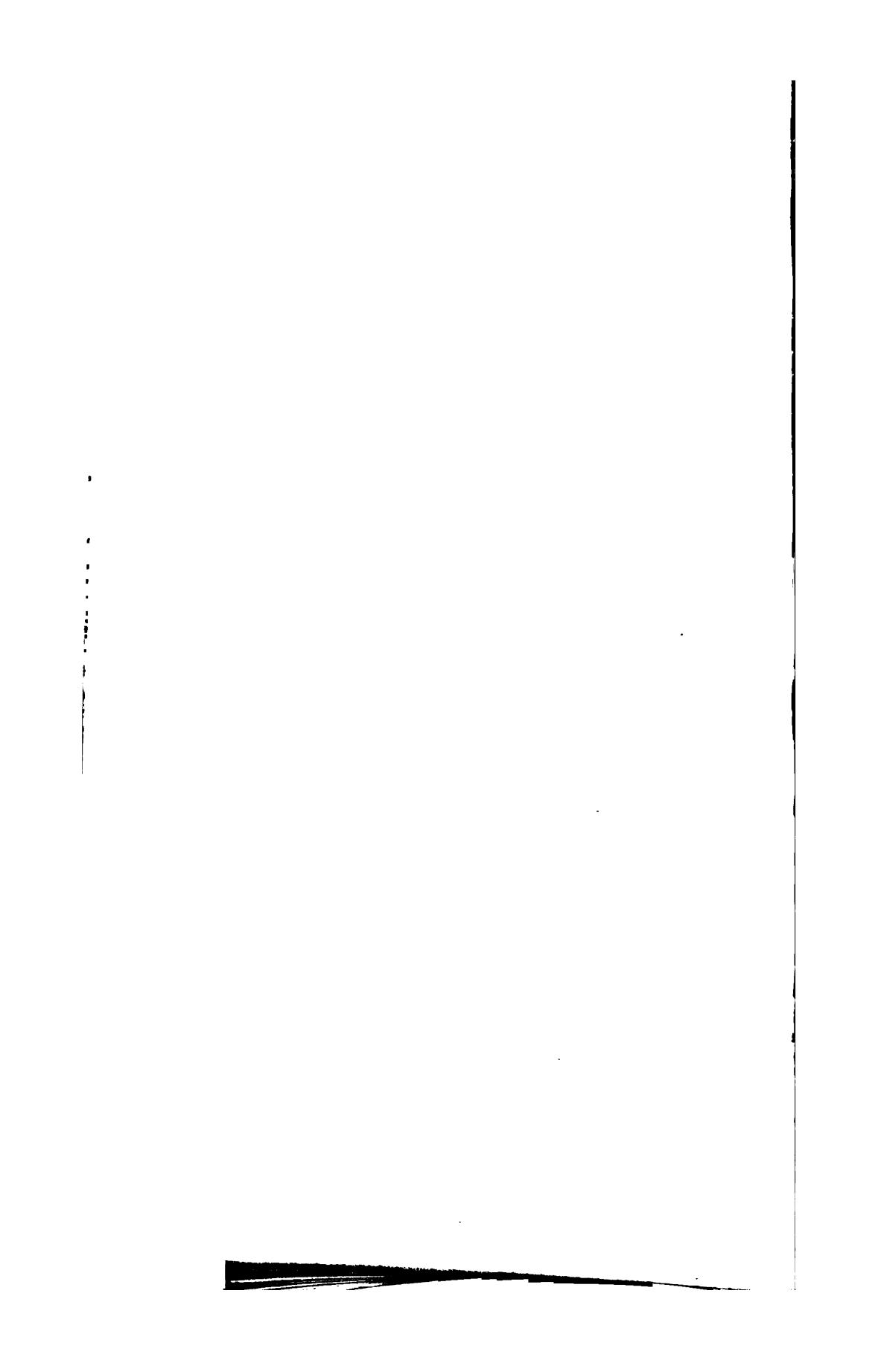




W. H. Fitch del. et lith.

J. N. Fitch mm.

*Otopappus verbesinoides* Benth.

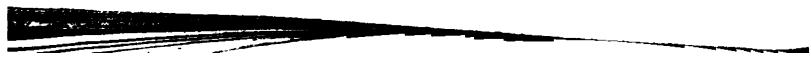


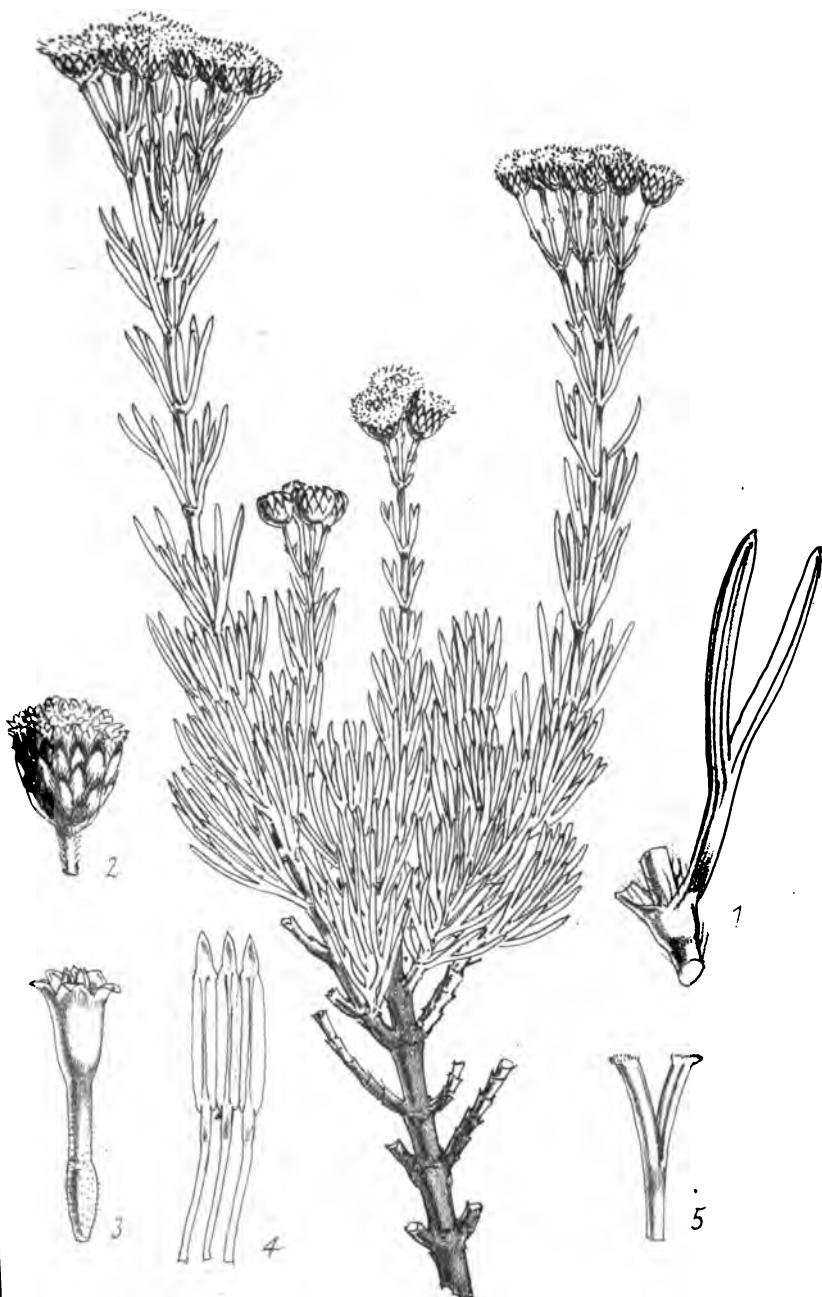


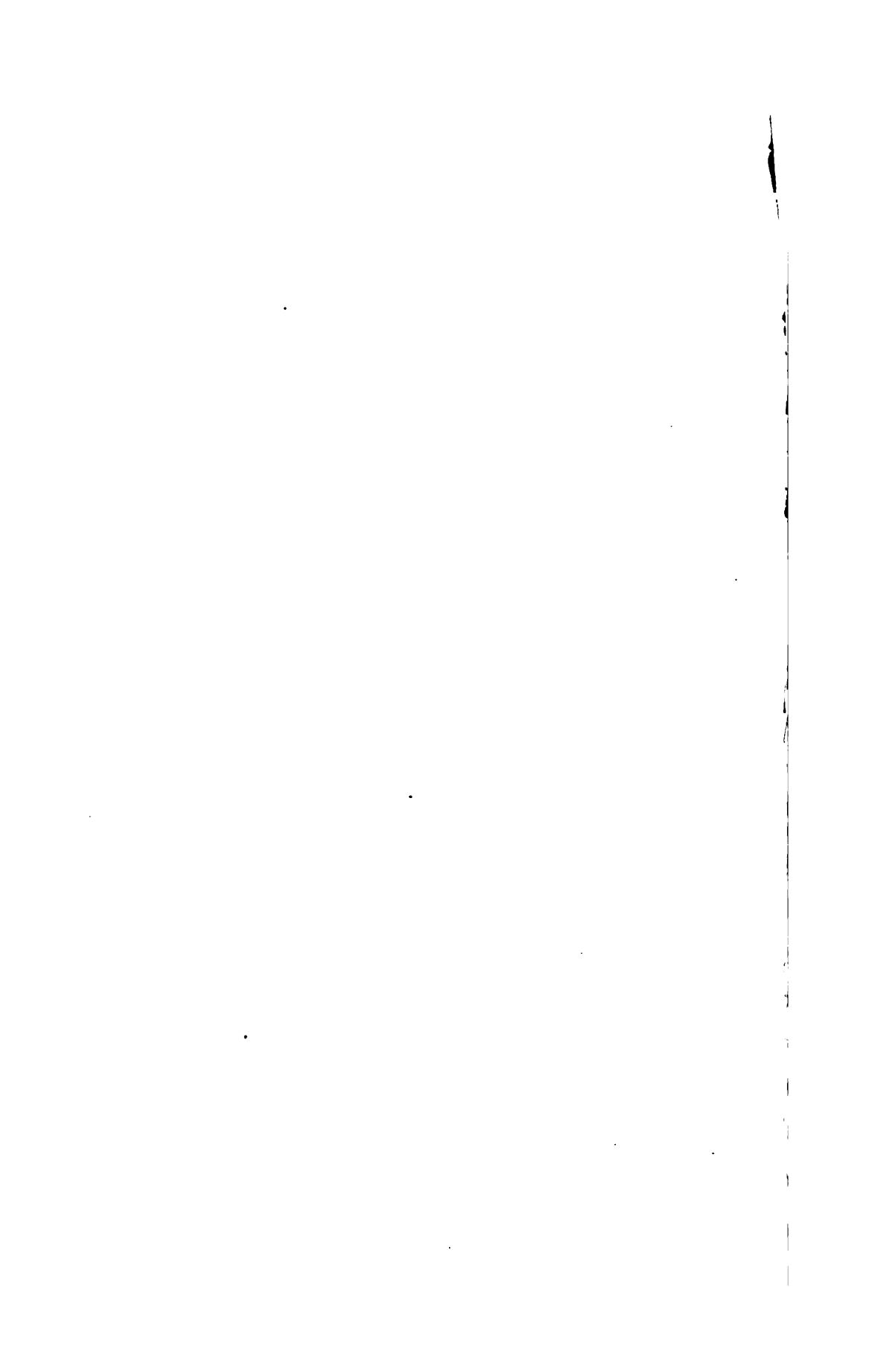
W H Fitch del et hch.

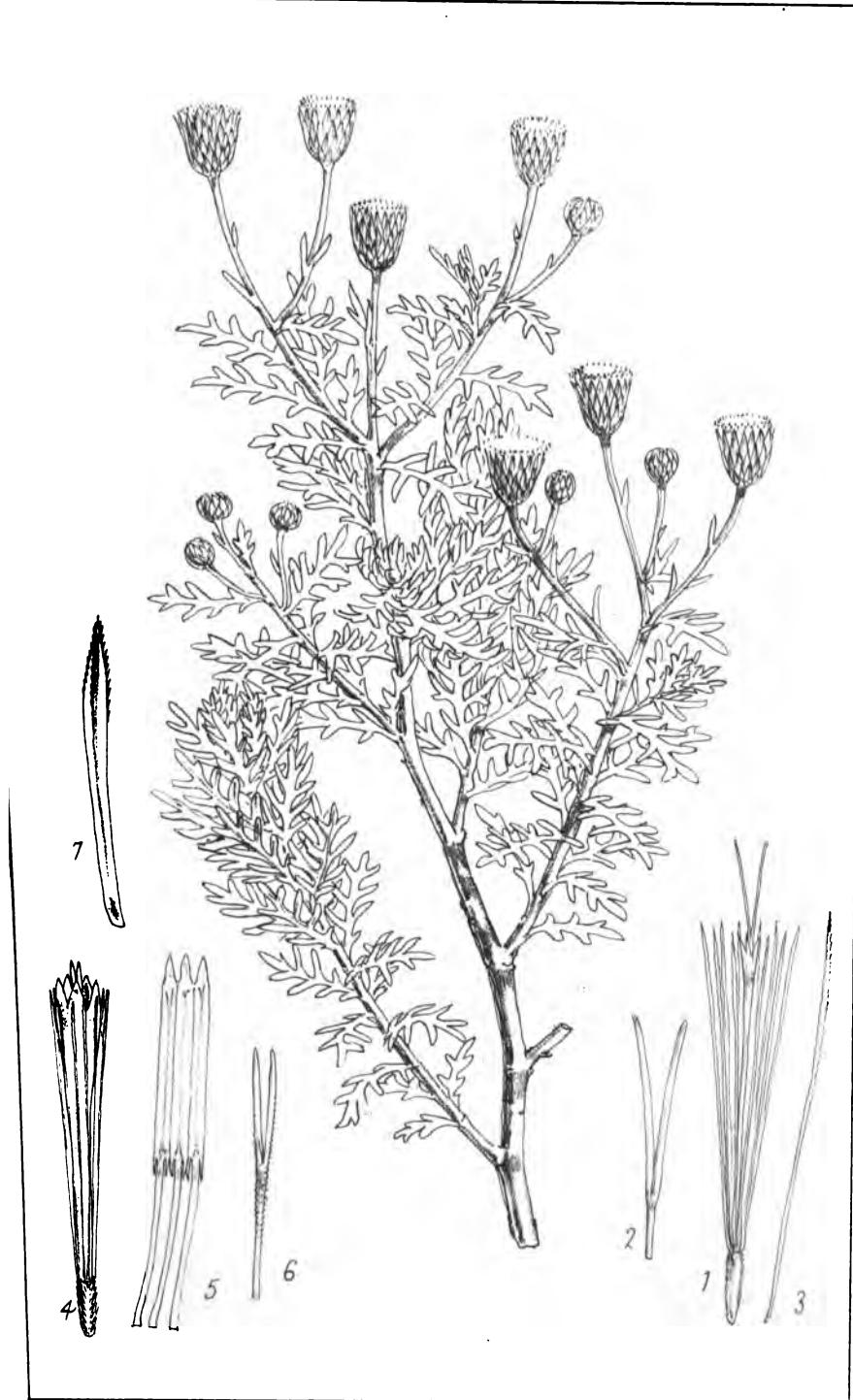
J.N. Fitch imp

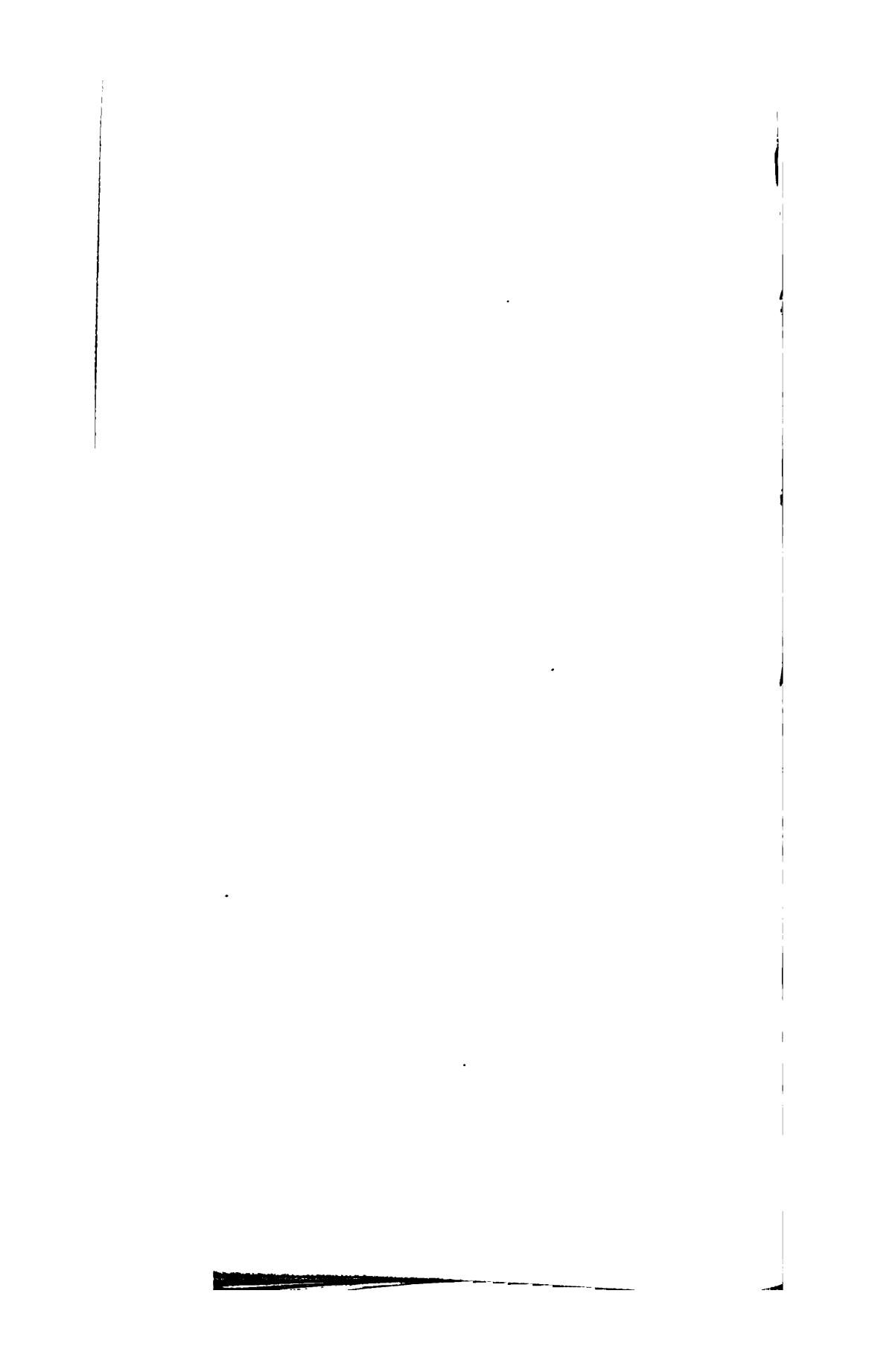
*Hymenostephium mexicanum*, Benth.

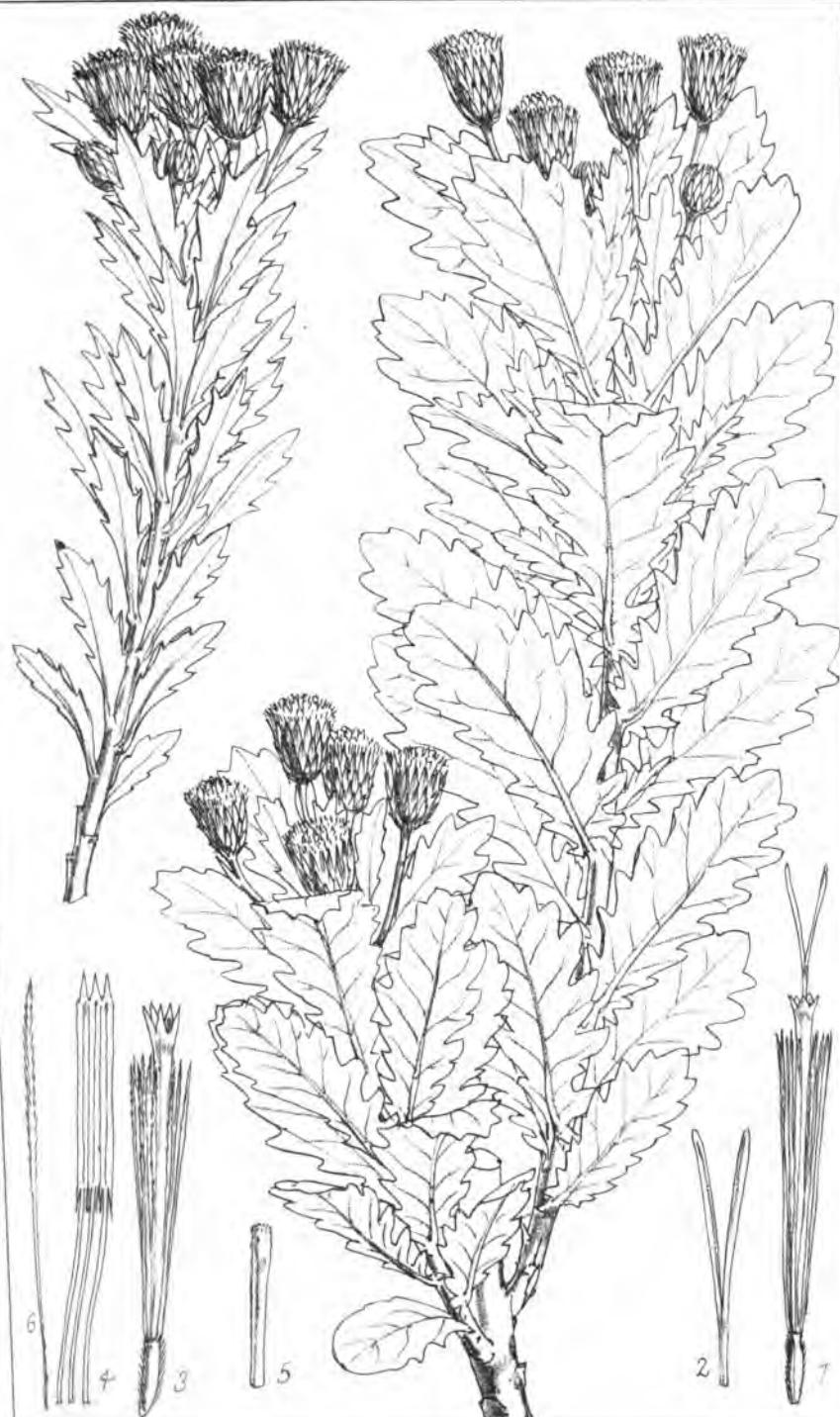








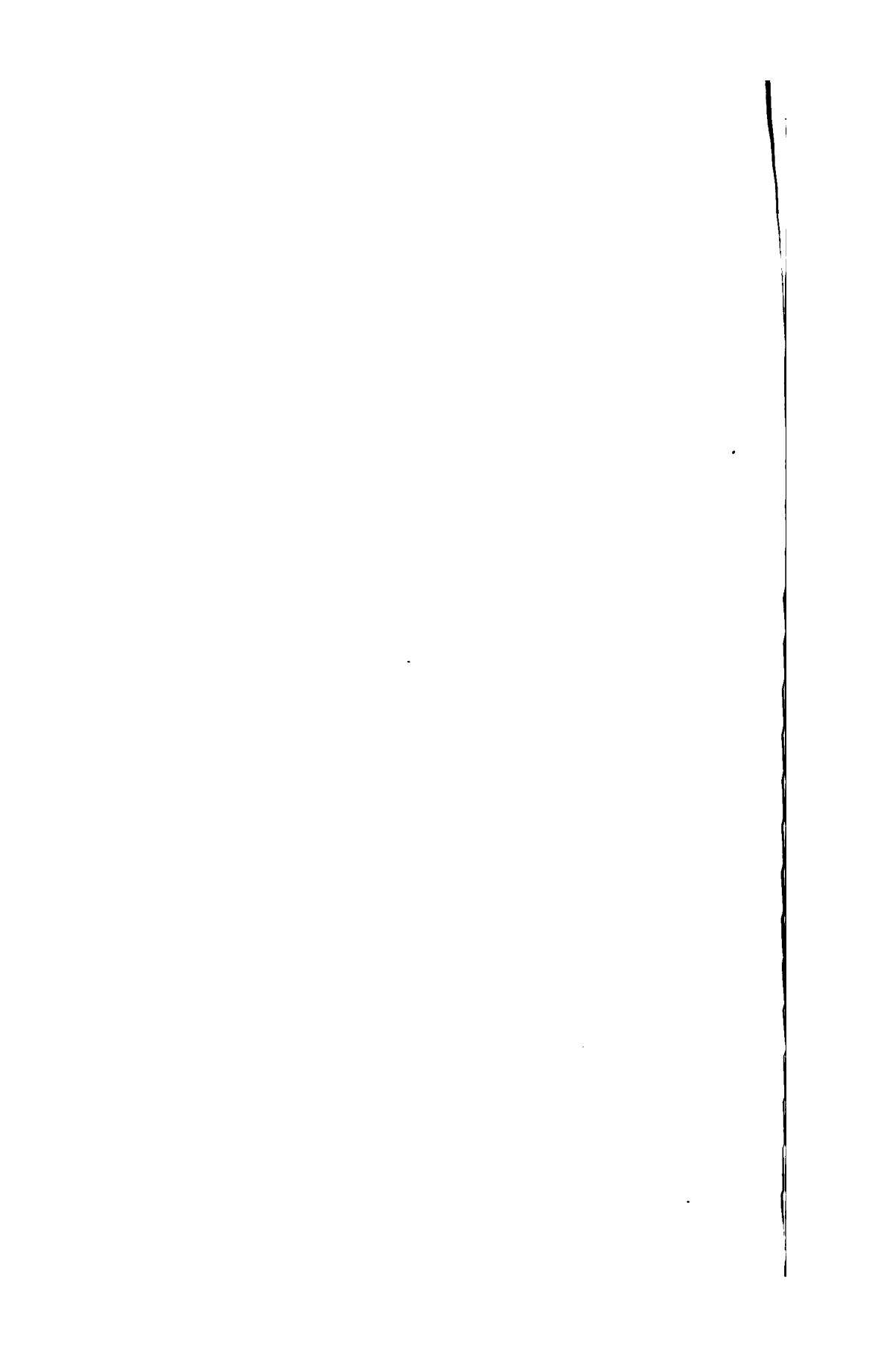


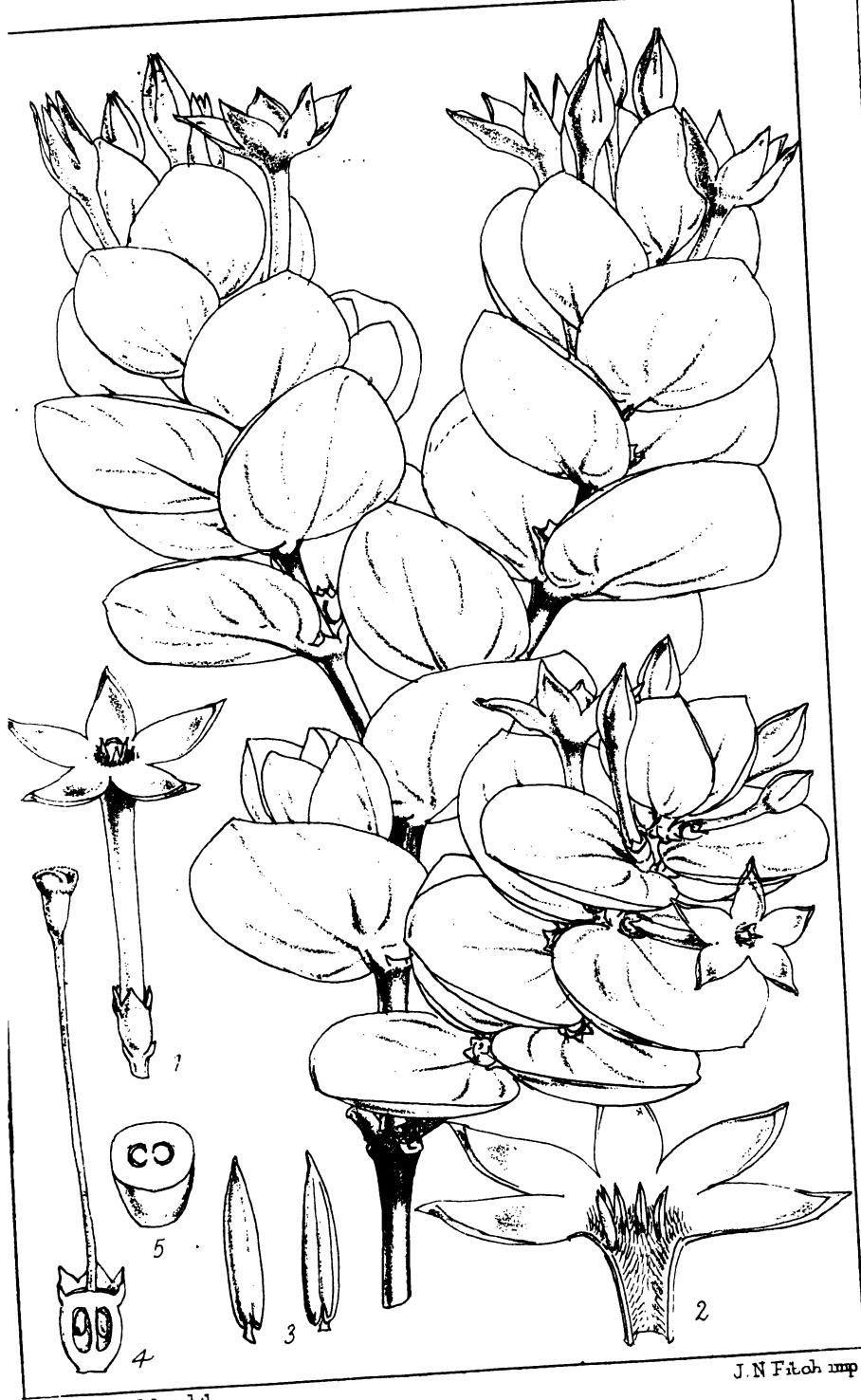


W.H. Fitch del et lith.

J.N. Fitch

*Pluchea frutescens. Benth.*

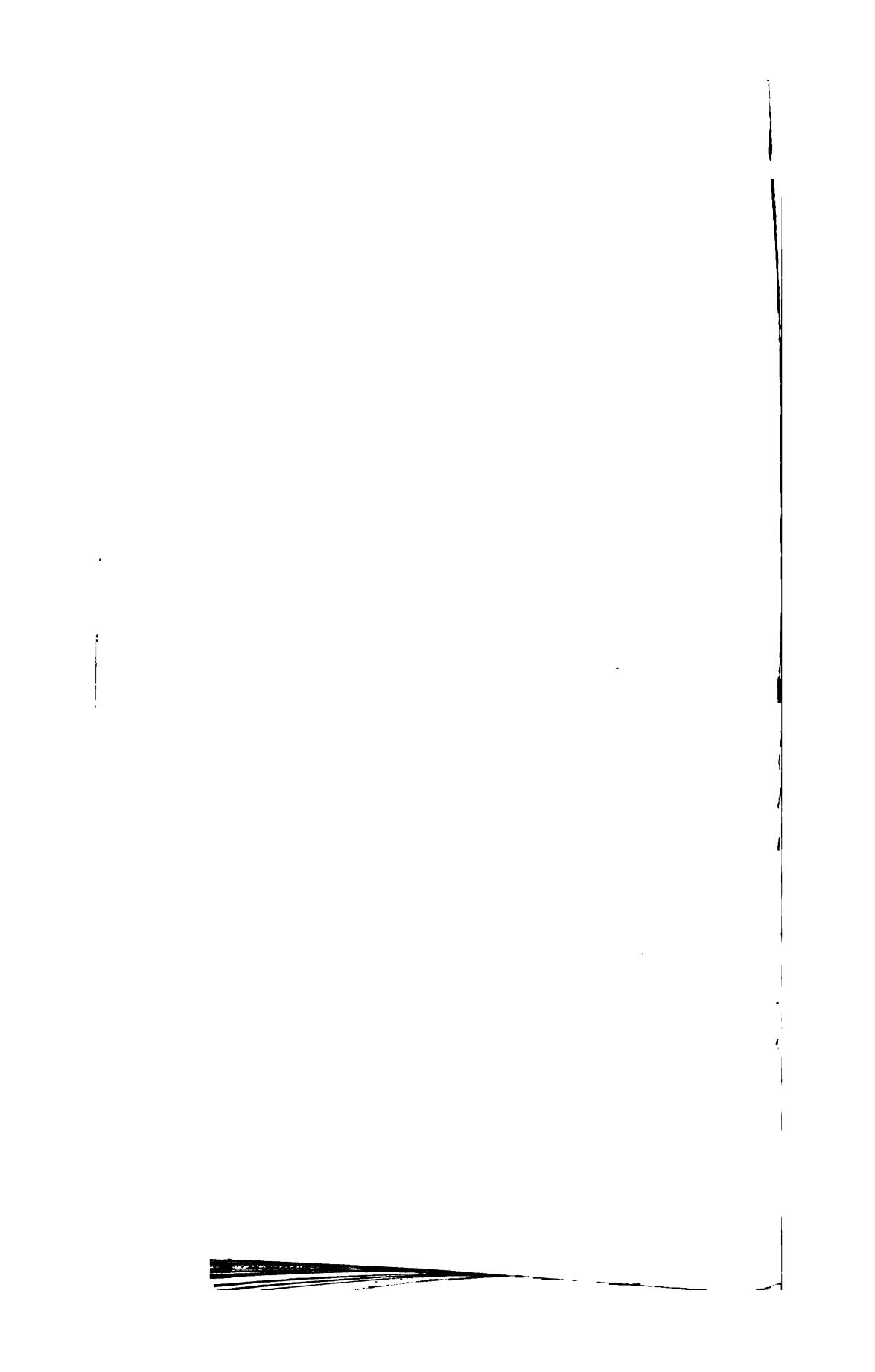




W. H. Fitch del. et lith.

J. N. Fitch imp.

*Cyclophyllum Deplanchei*, Hook.f.

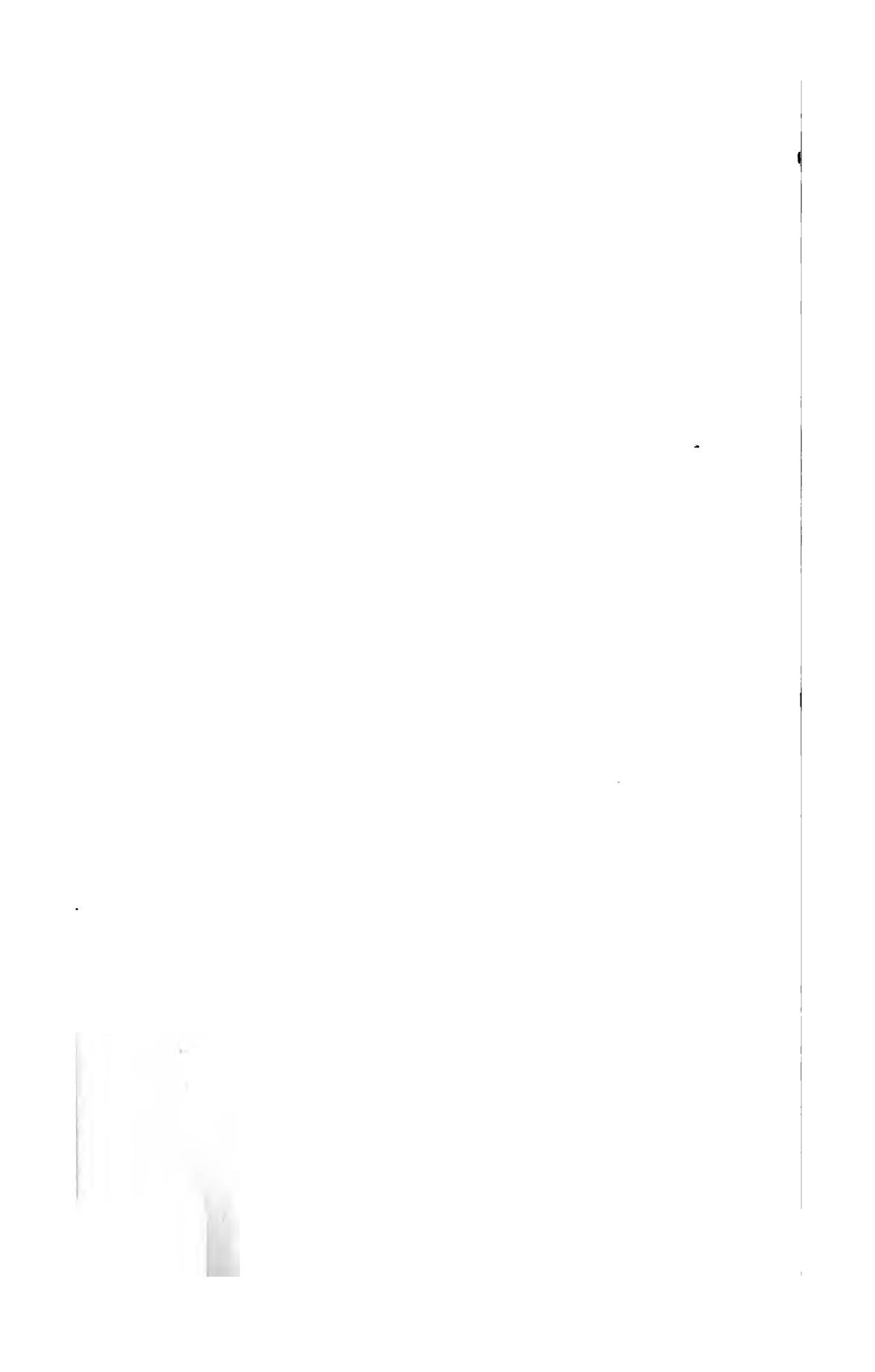




W. H. Pritch del et lith.

J. N. Fitch

*Notopora Schomburgkii* Hook. f.

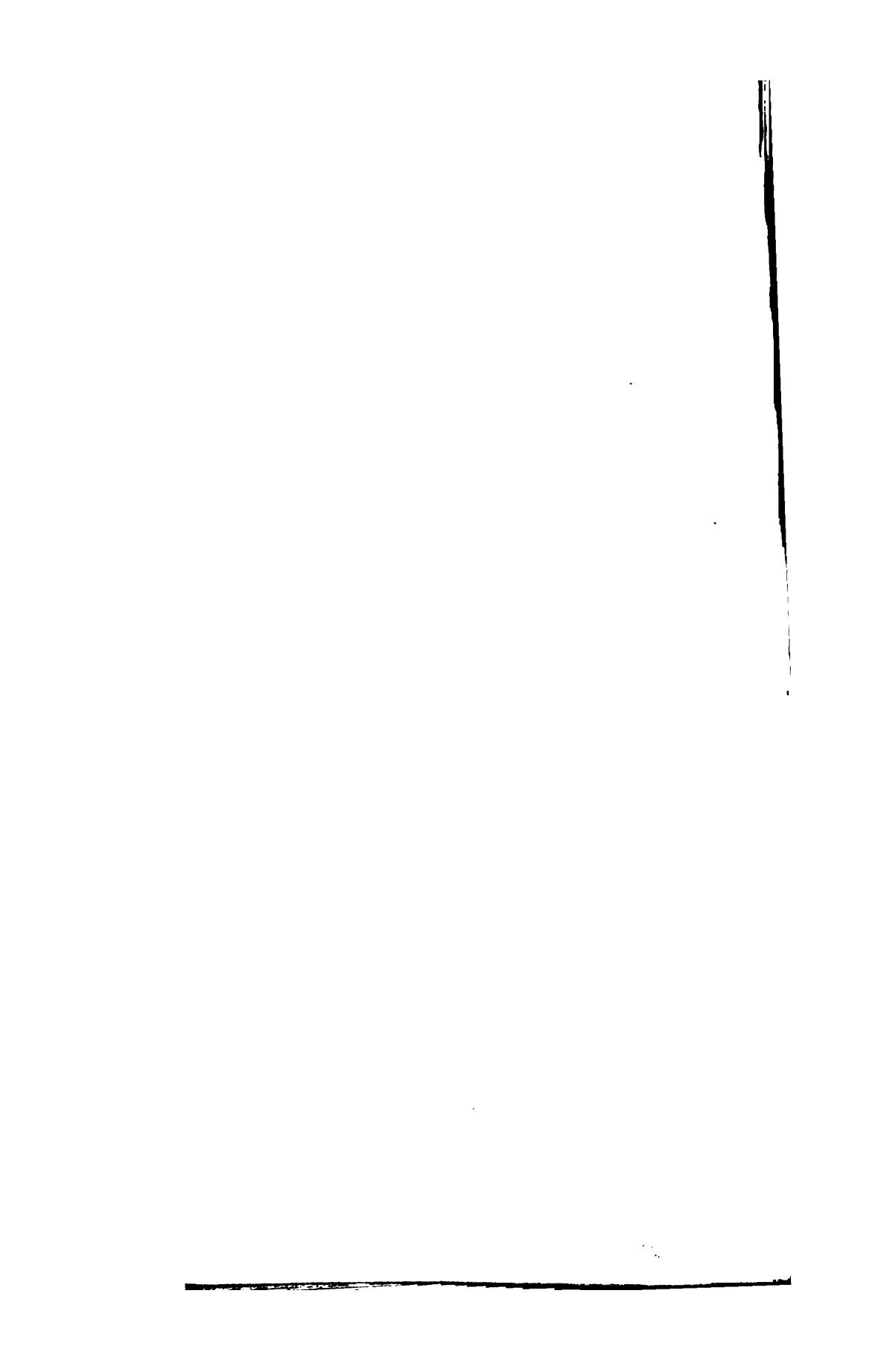




W.H. Fitch del. & scd. B.M.

J.N. Fitch Inv.

*Rigiolepis borneensis*, Hook. f.

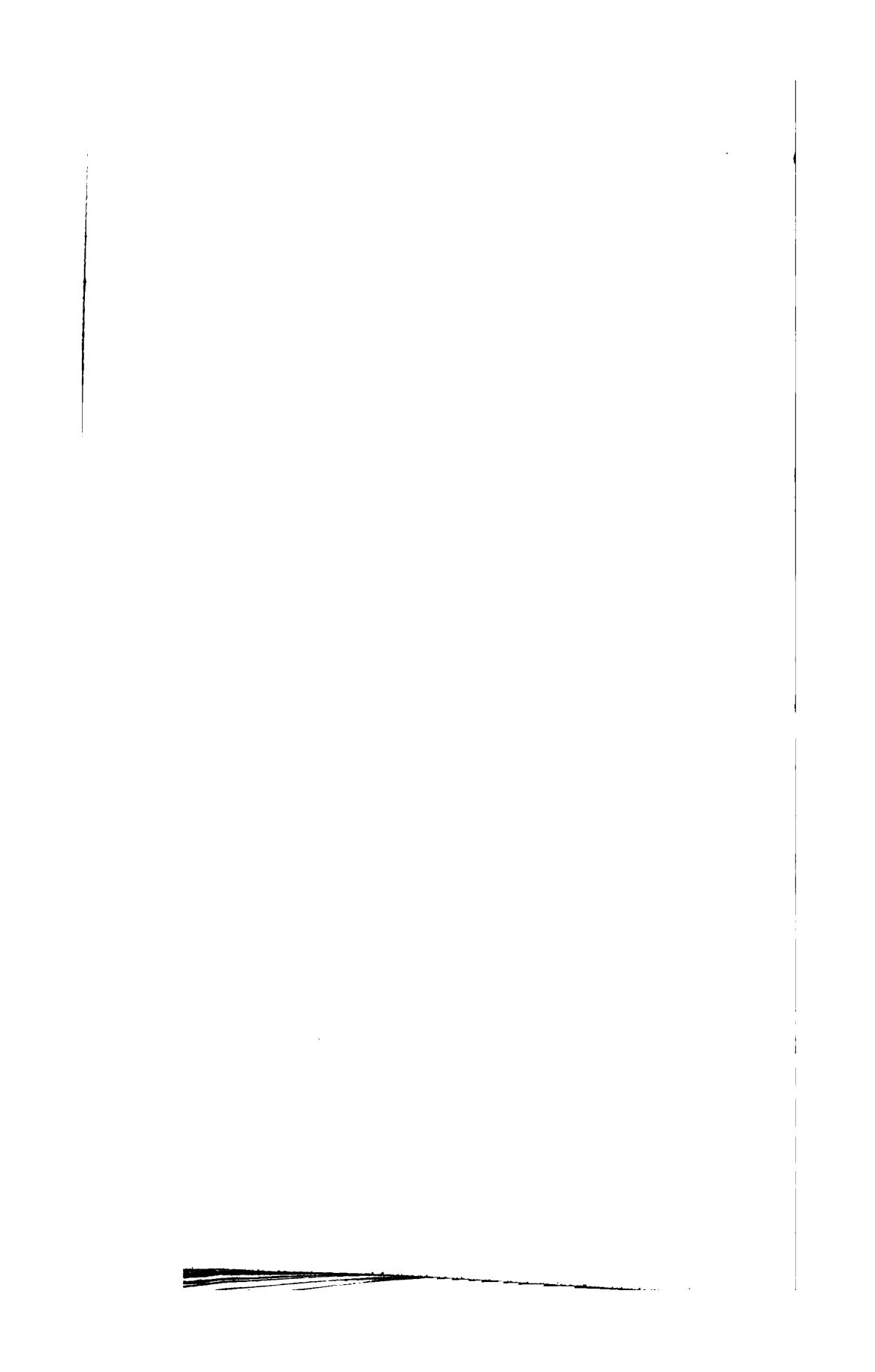


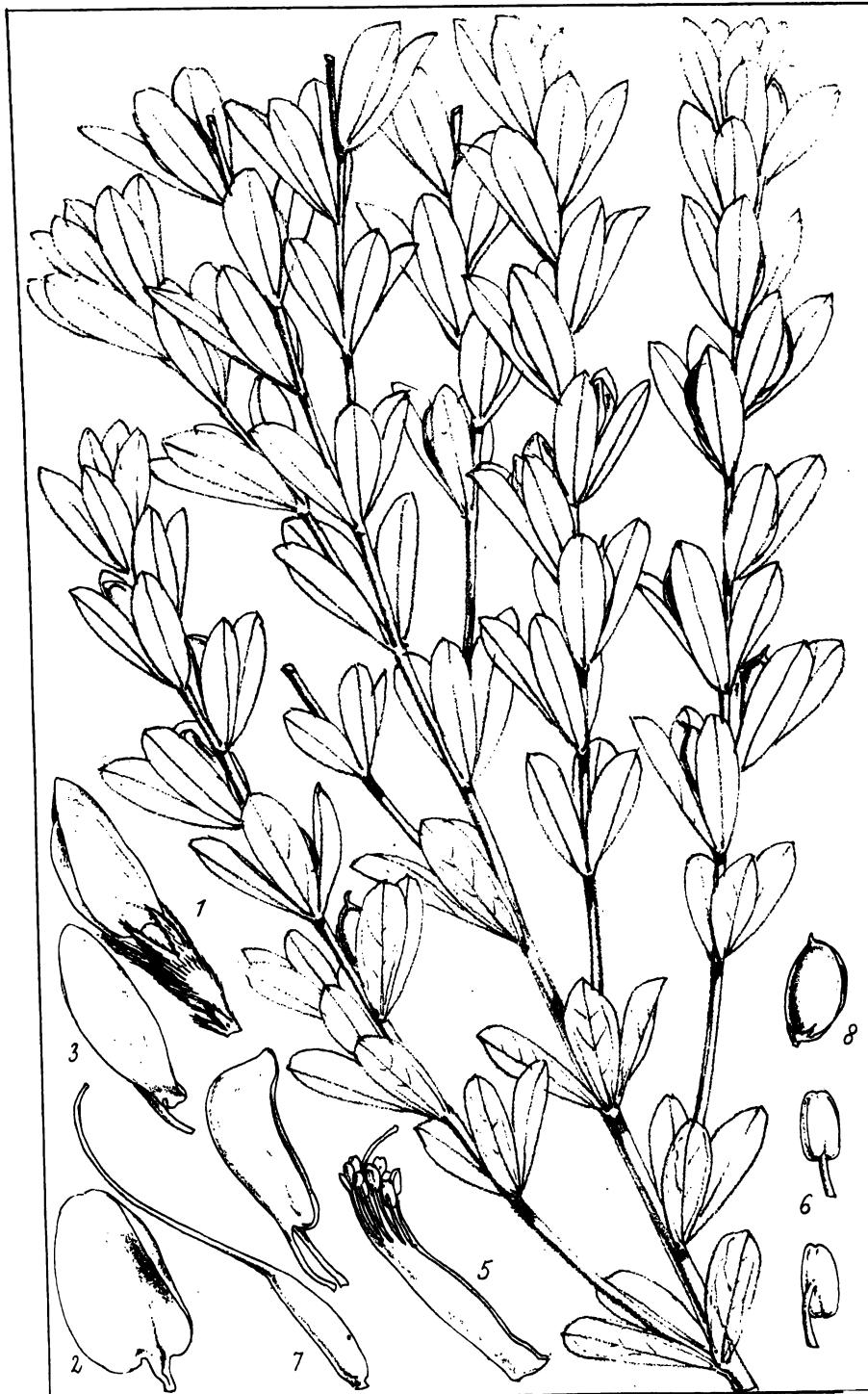


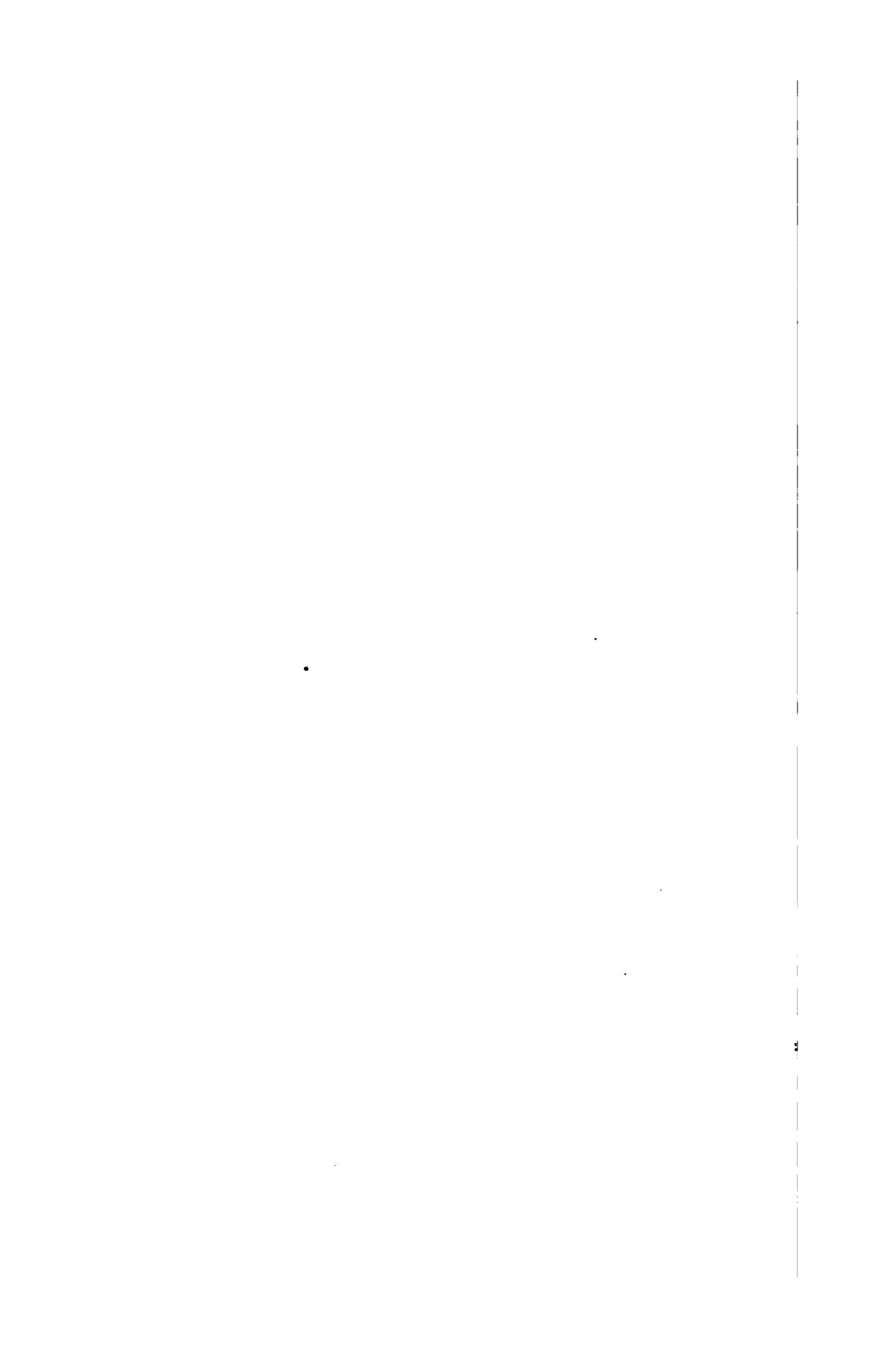
W.H.Fitch del. et lith.

J.N.Fitch imp.

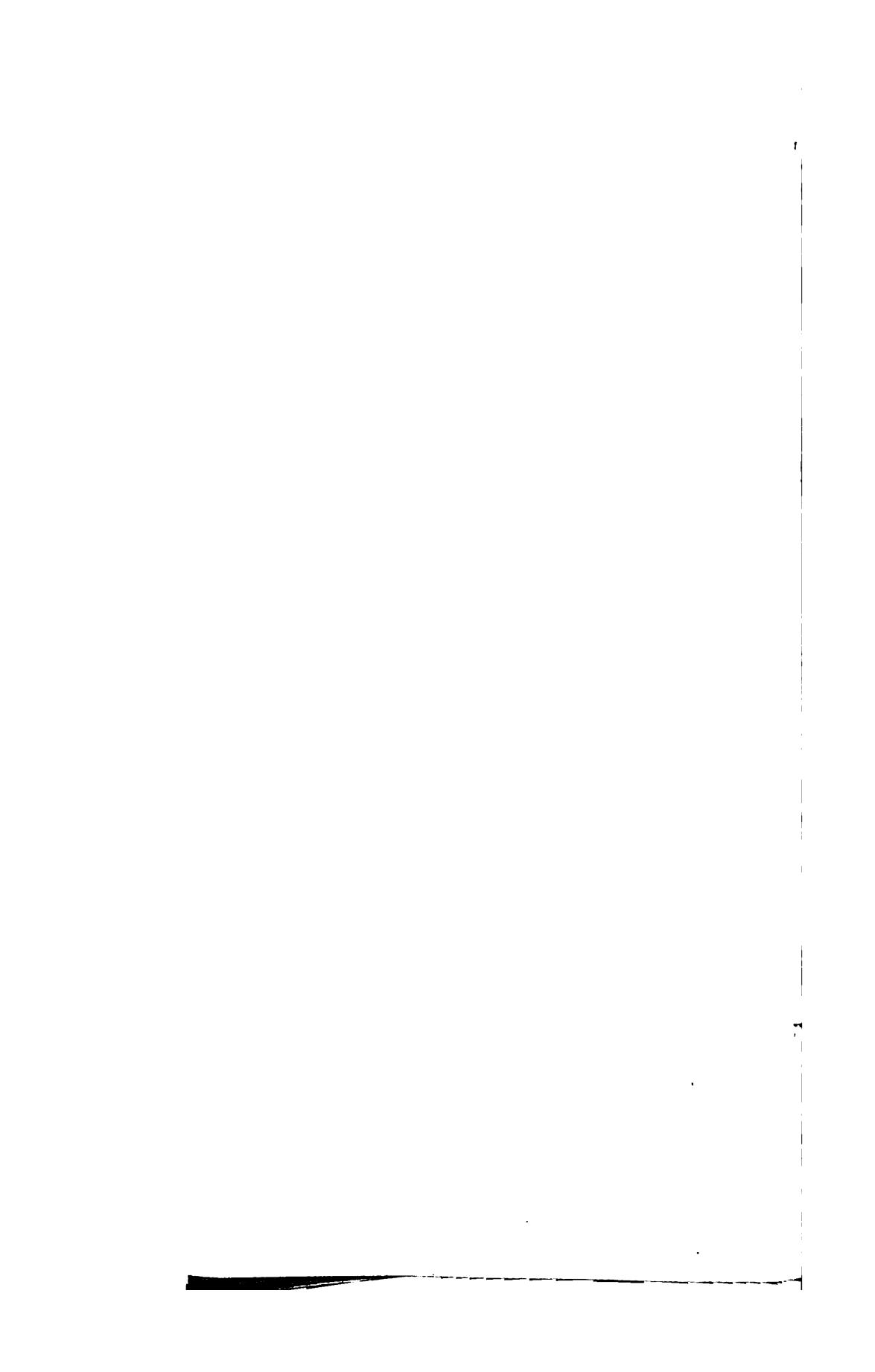
Guthriea capensis, *Bolus*.









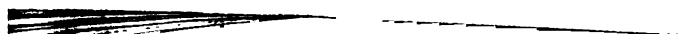


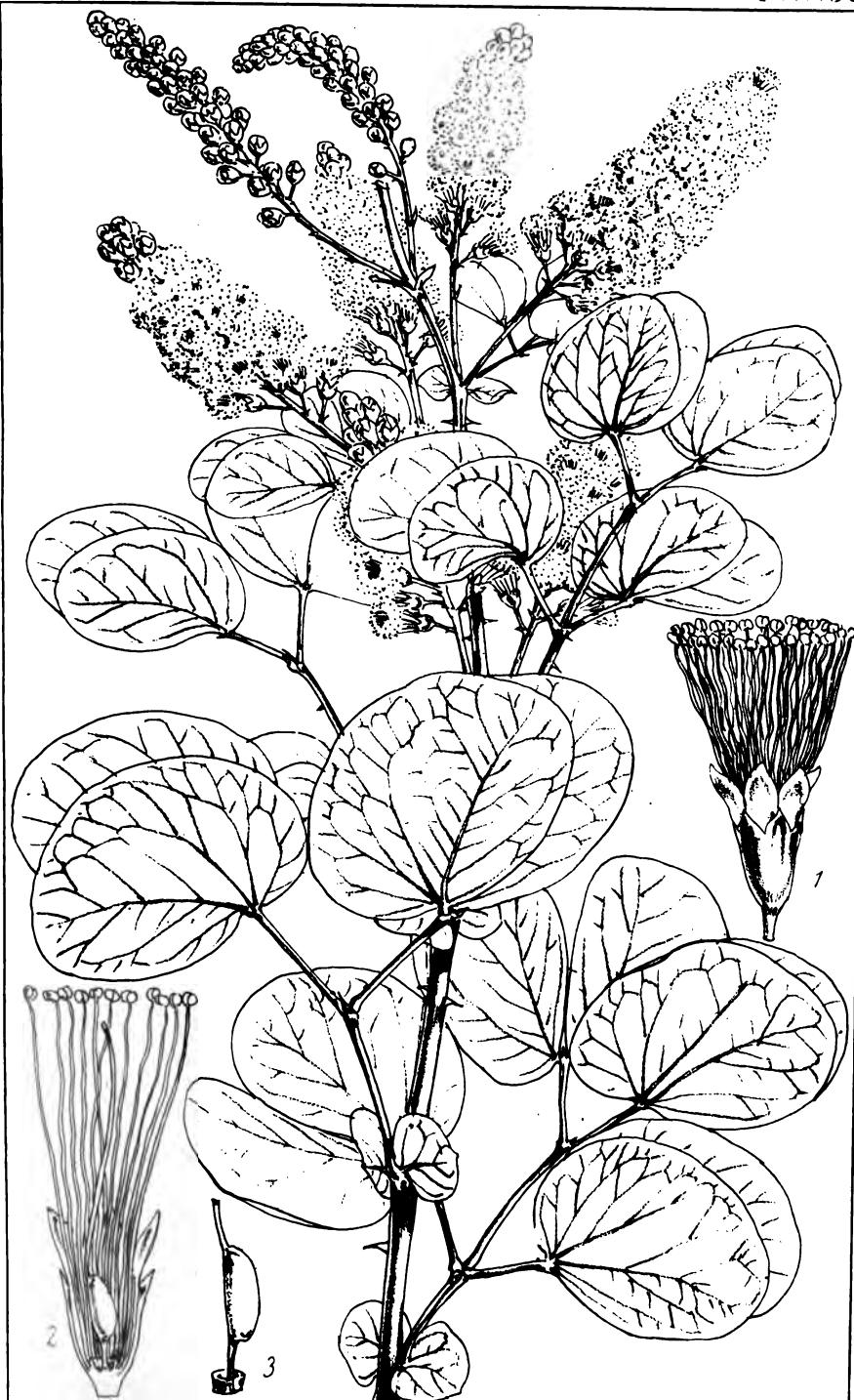


W.H.Fitch del. et lith.

J. N. Fitch r

*Koompassia malaccensis, Maung.*

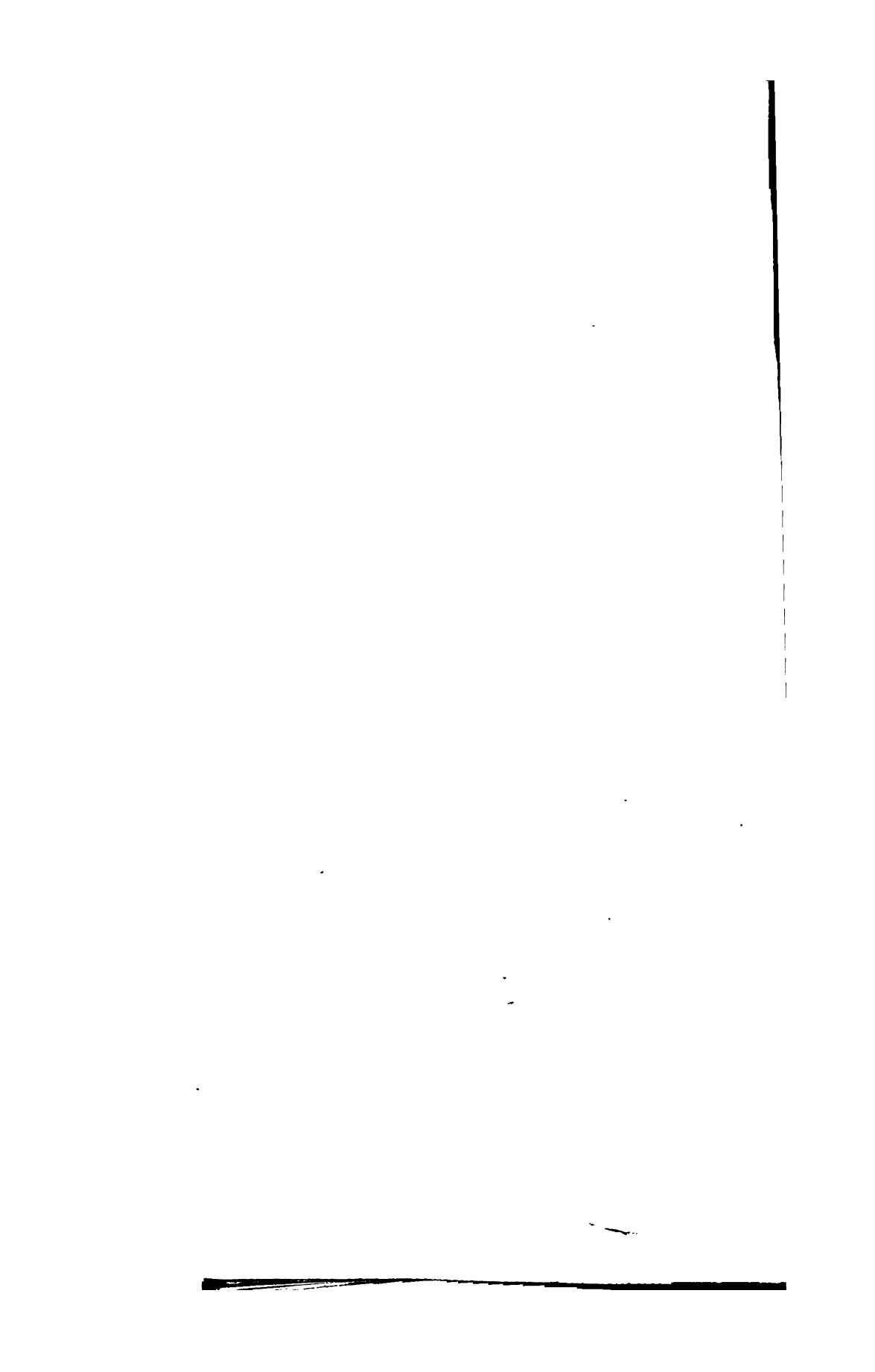




W H Fitch del. & B. C.

J N Fitch imp.

*Acacia reniformis, Benth.*

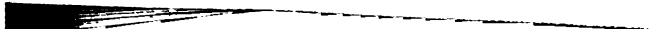




J. N. Pritchard, 1880

J. N. Pritchard 1880

*Acacia crassifolia*, Gray.

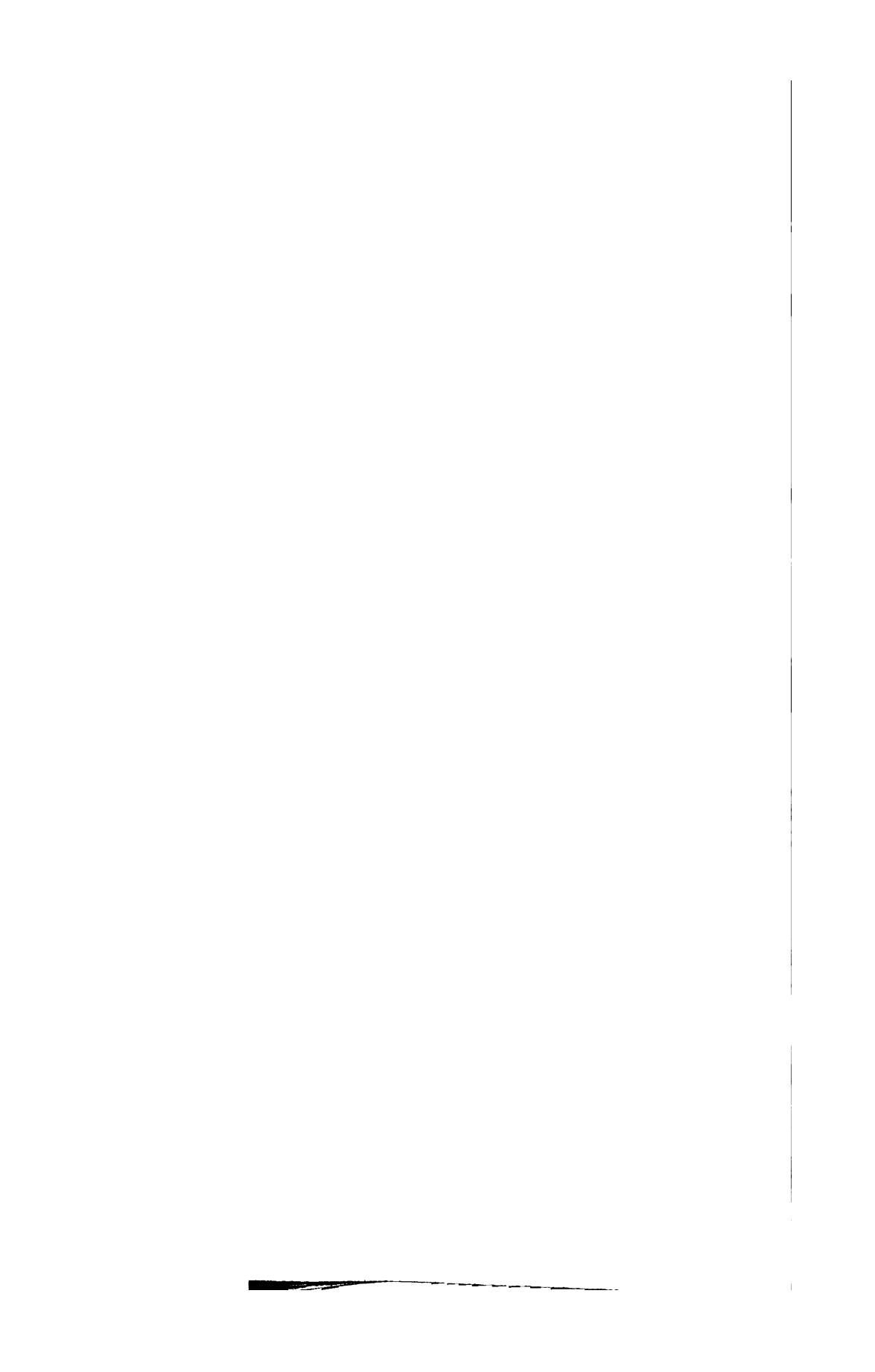




W. H. Pritch del. et lith.

J. N. P. 1. in.

*Calliandra colletioides*, Griseb



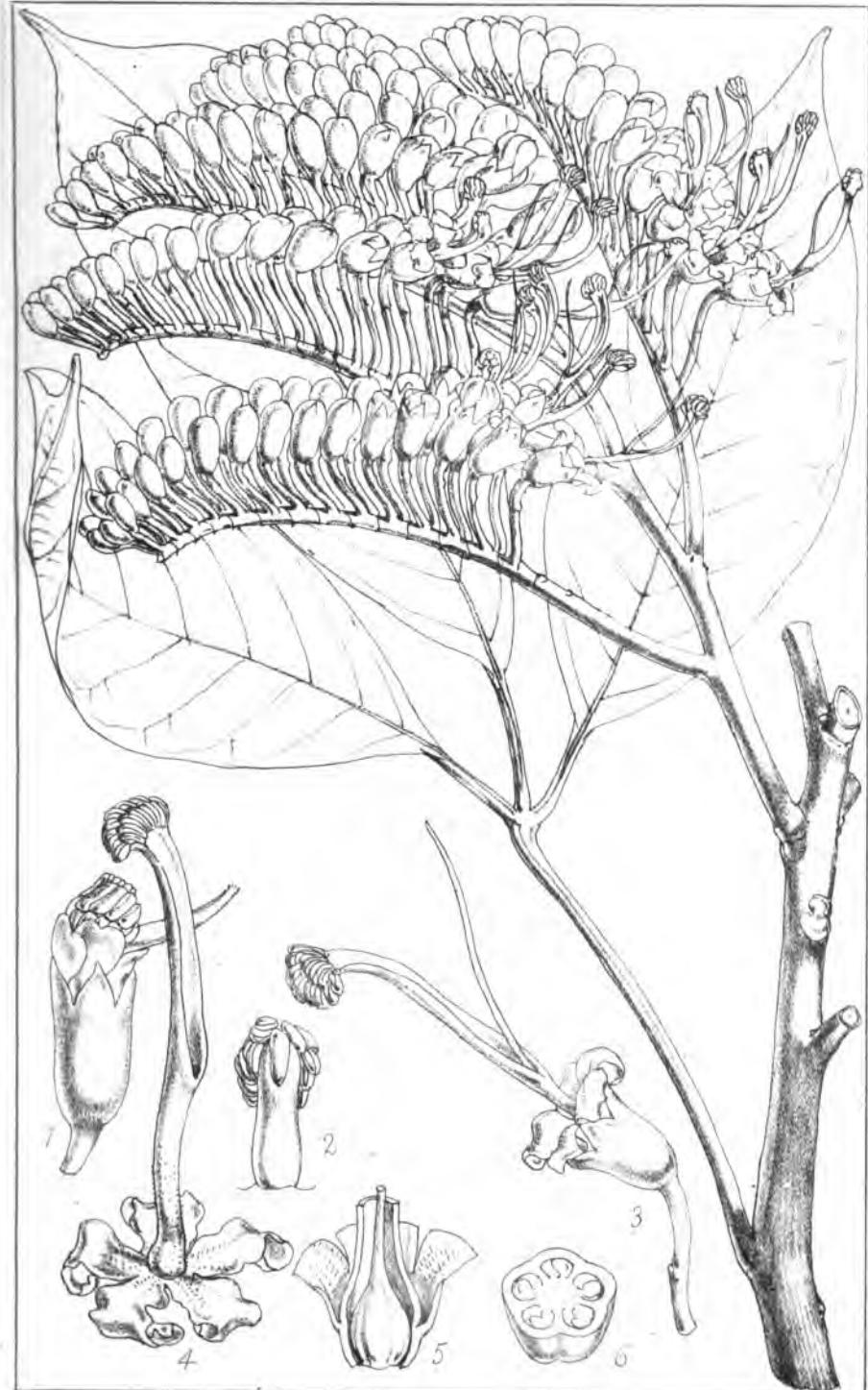


H. Benth del et lith.

J. N. Pritch imp.

*Pithecellobium Hystrix* Benth.

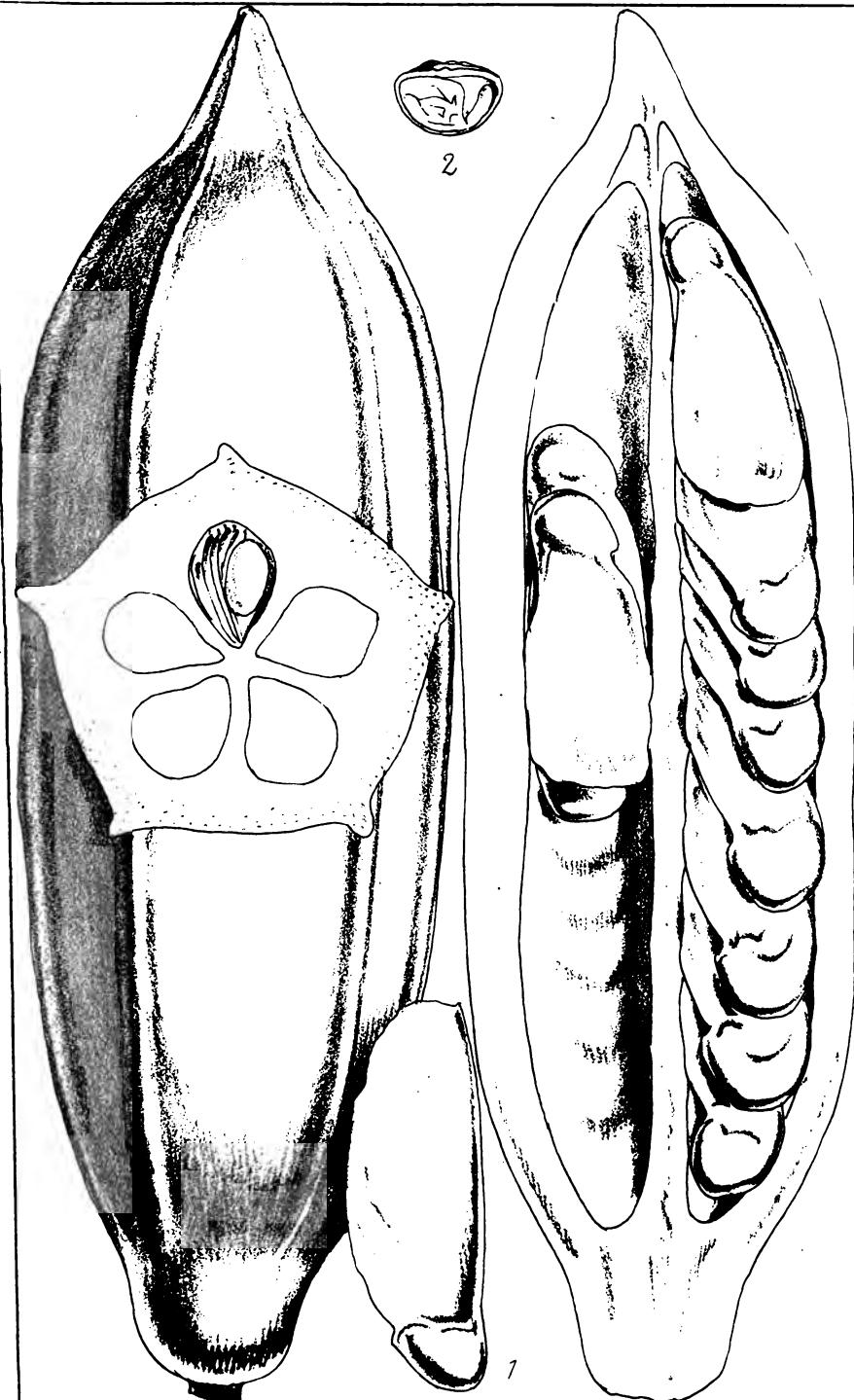




J N. Fitch

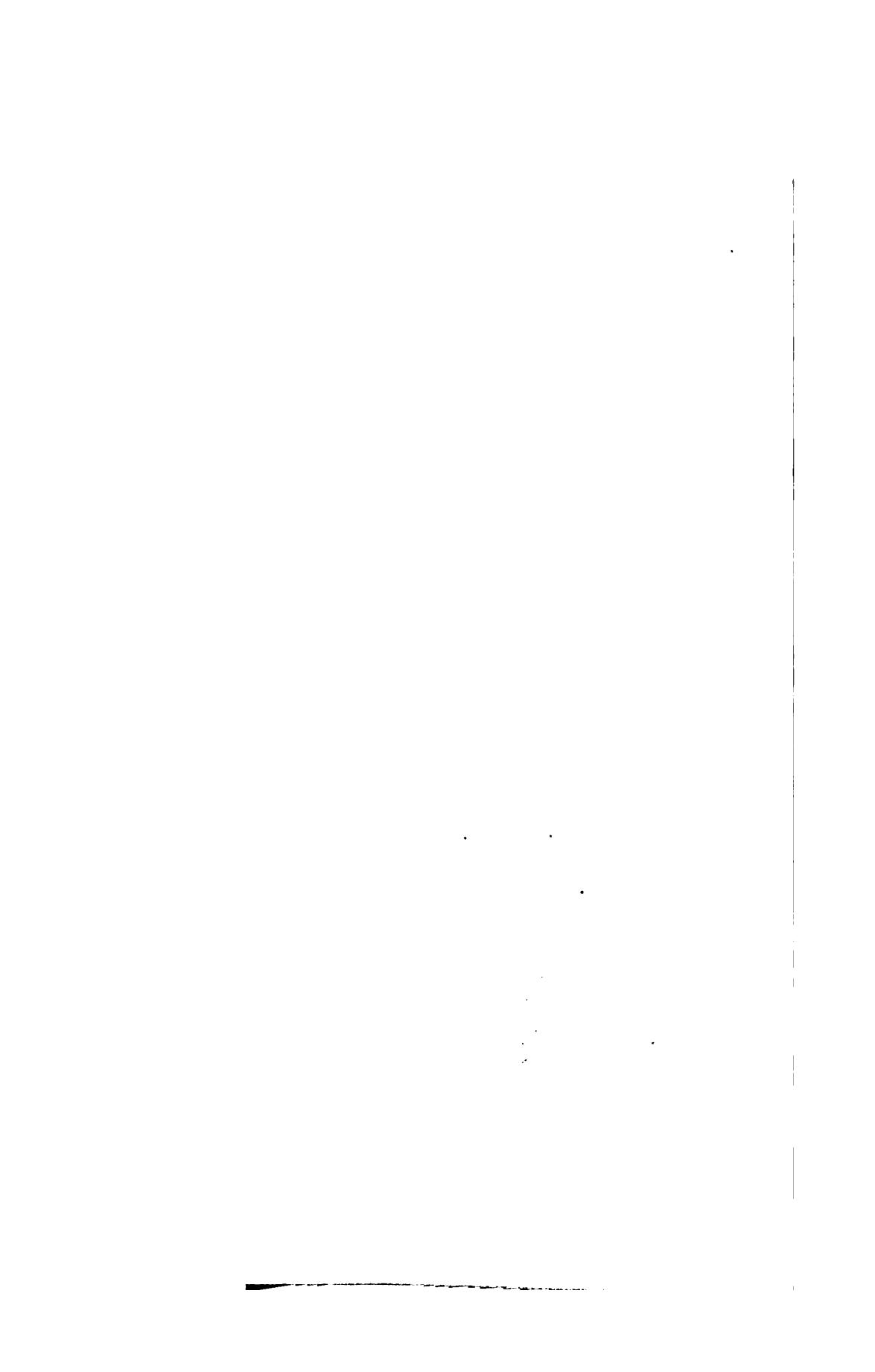
Bernoullia flammca. Oliv.





J. N. Fitch imp

*Bernoullia flammea*. Oliv.



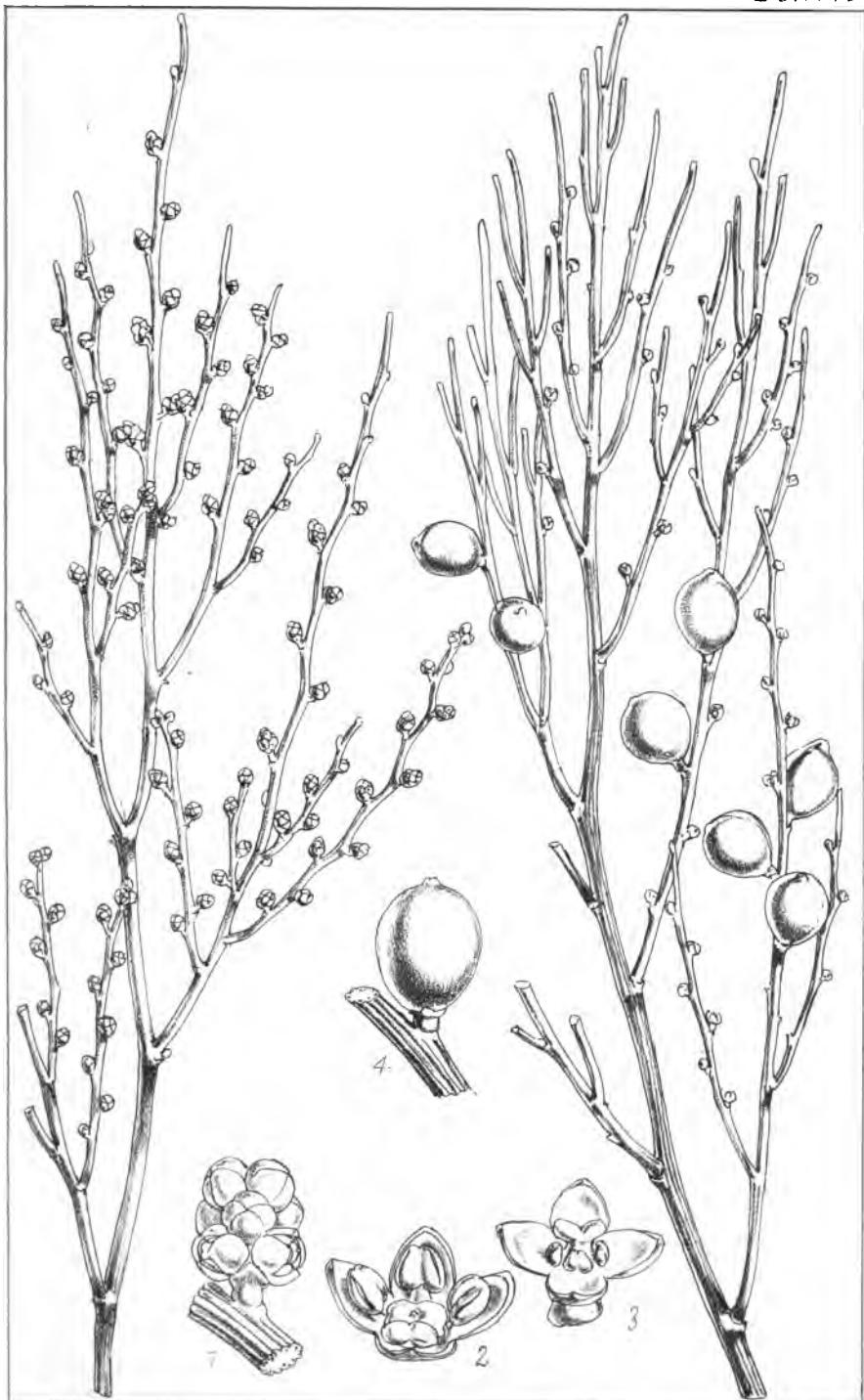


W. H. Pitch del et lith.

J. N. Pitch

*Morina betonicoides* Benth.

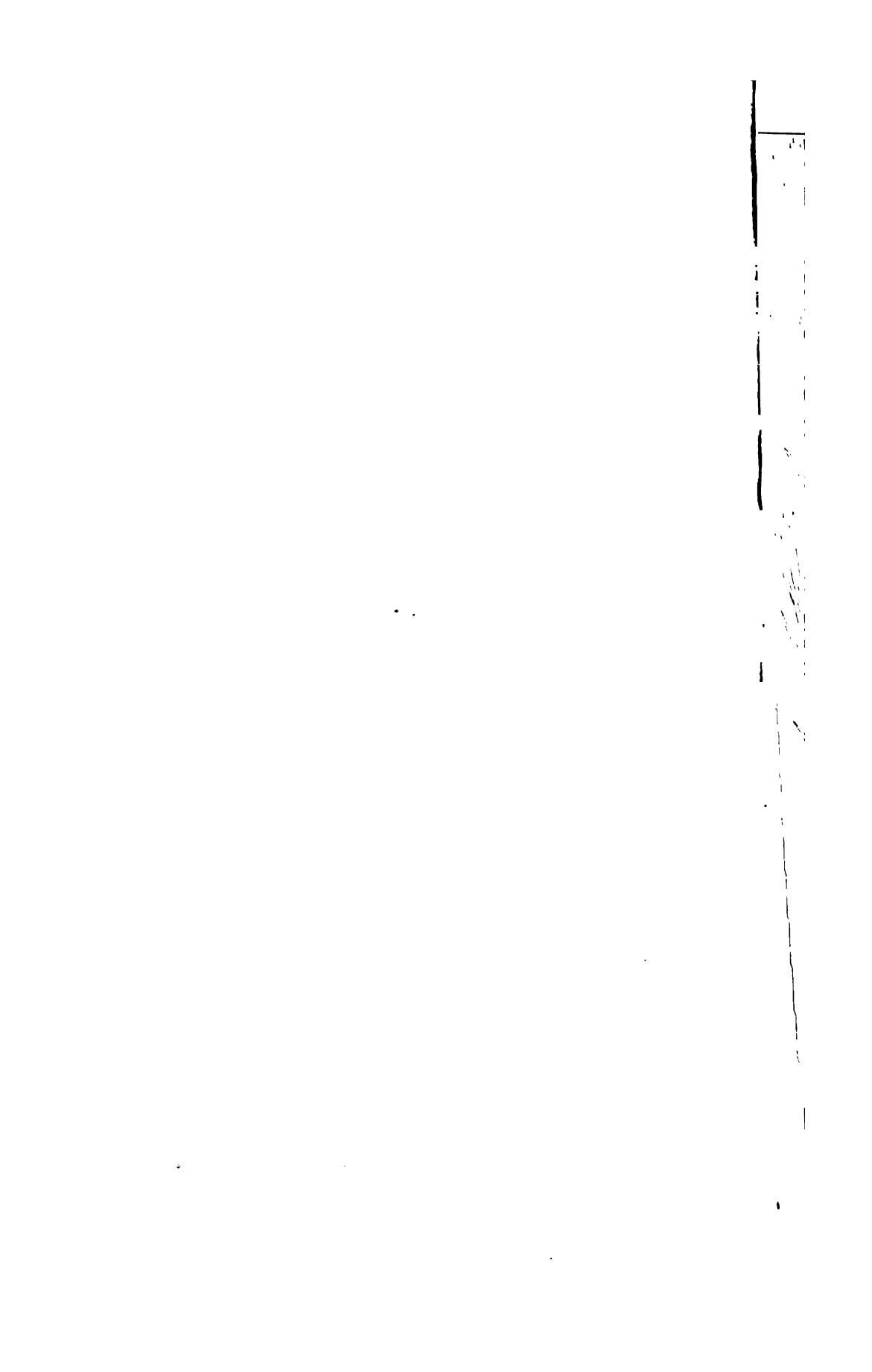




W.H. Bishop ex. et. illus.

J. N. French, 1880

*Omphacomeria acerba, A.D.C.*





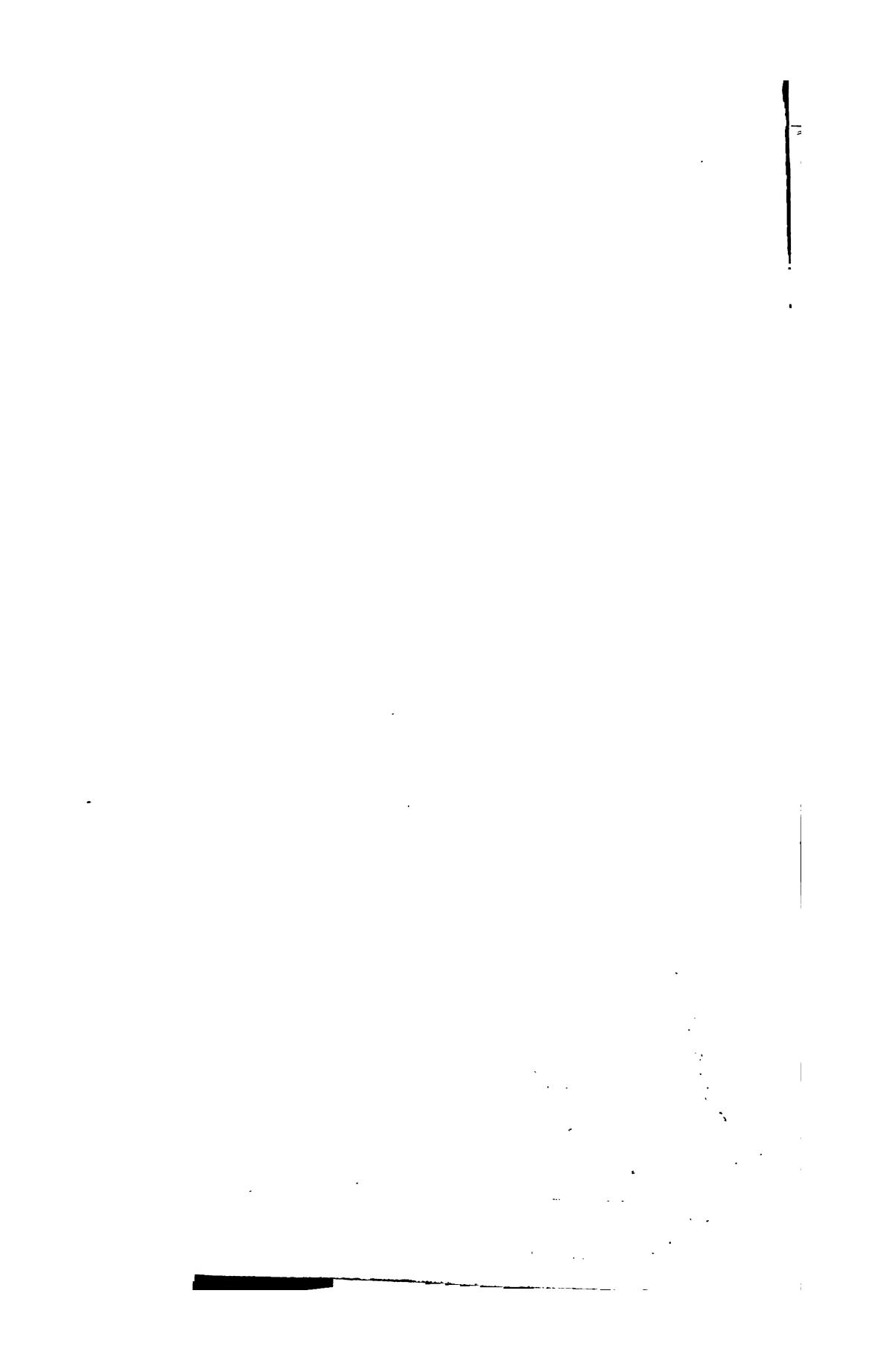




W.H. Fitch del. et lith.

J. N. Pritch. imp.

*Aphananthe philippinensis*. Planch.

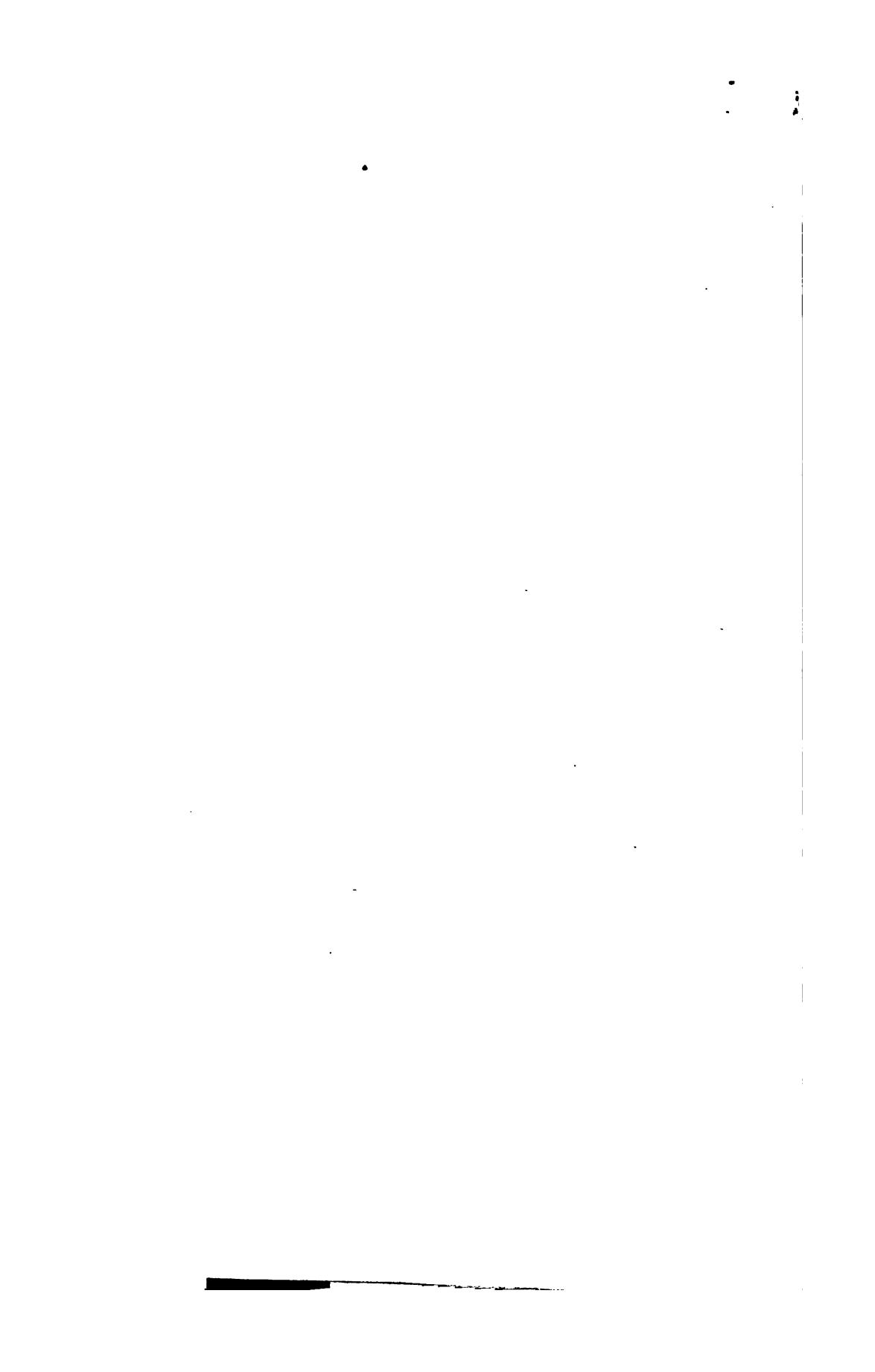




W.H. Fitch del et lith.

J.N. Fitch

*Phlebocarya ciliata, Br.*





W. H. Fitch del. et lith.

J. N. Fitch, imp.

*Phlebocarya filifolia*, F. Muell.

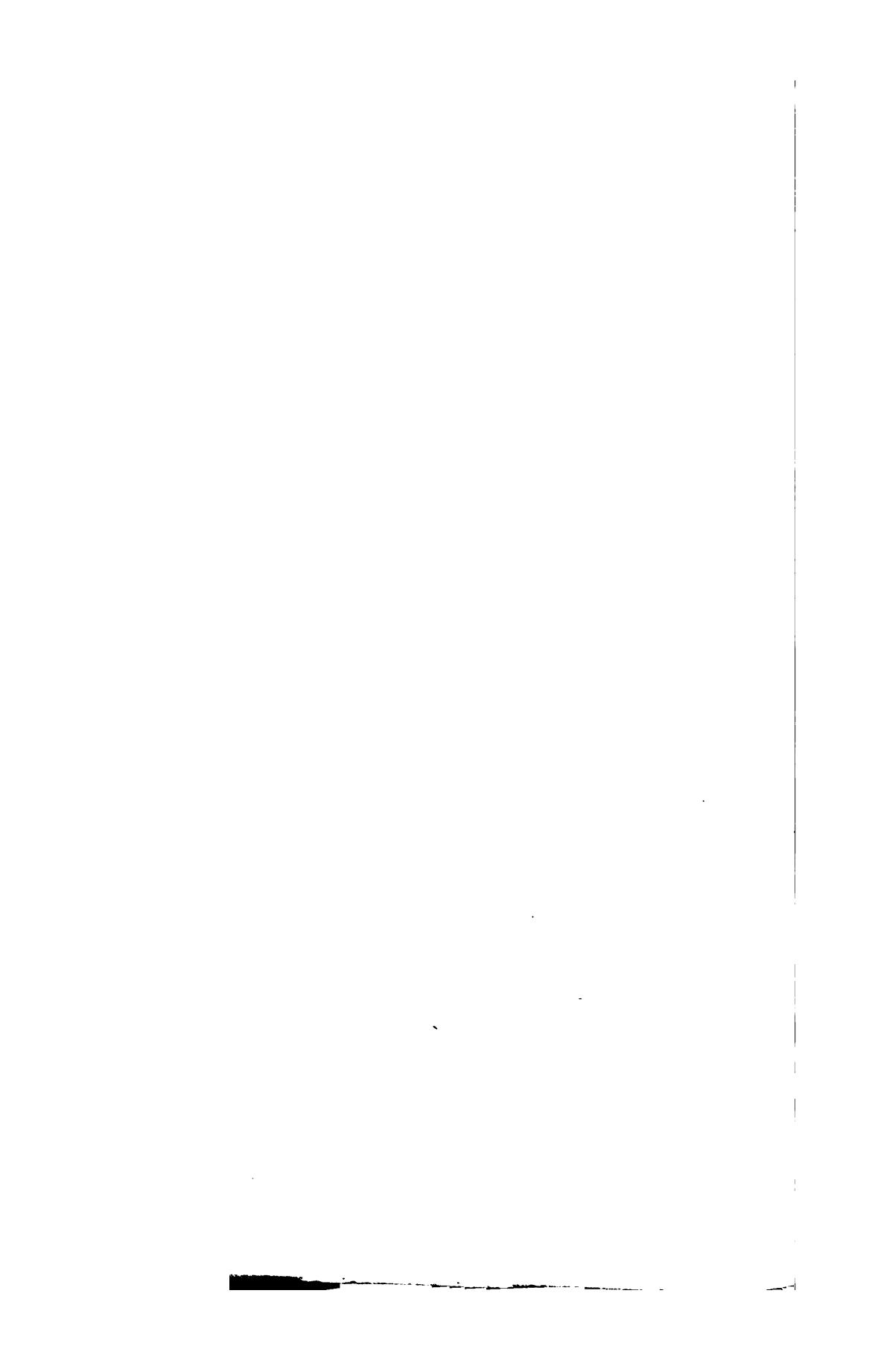


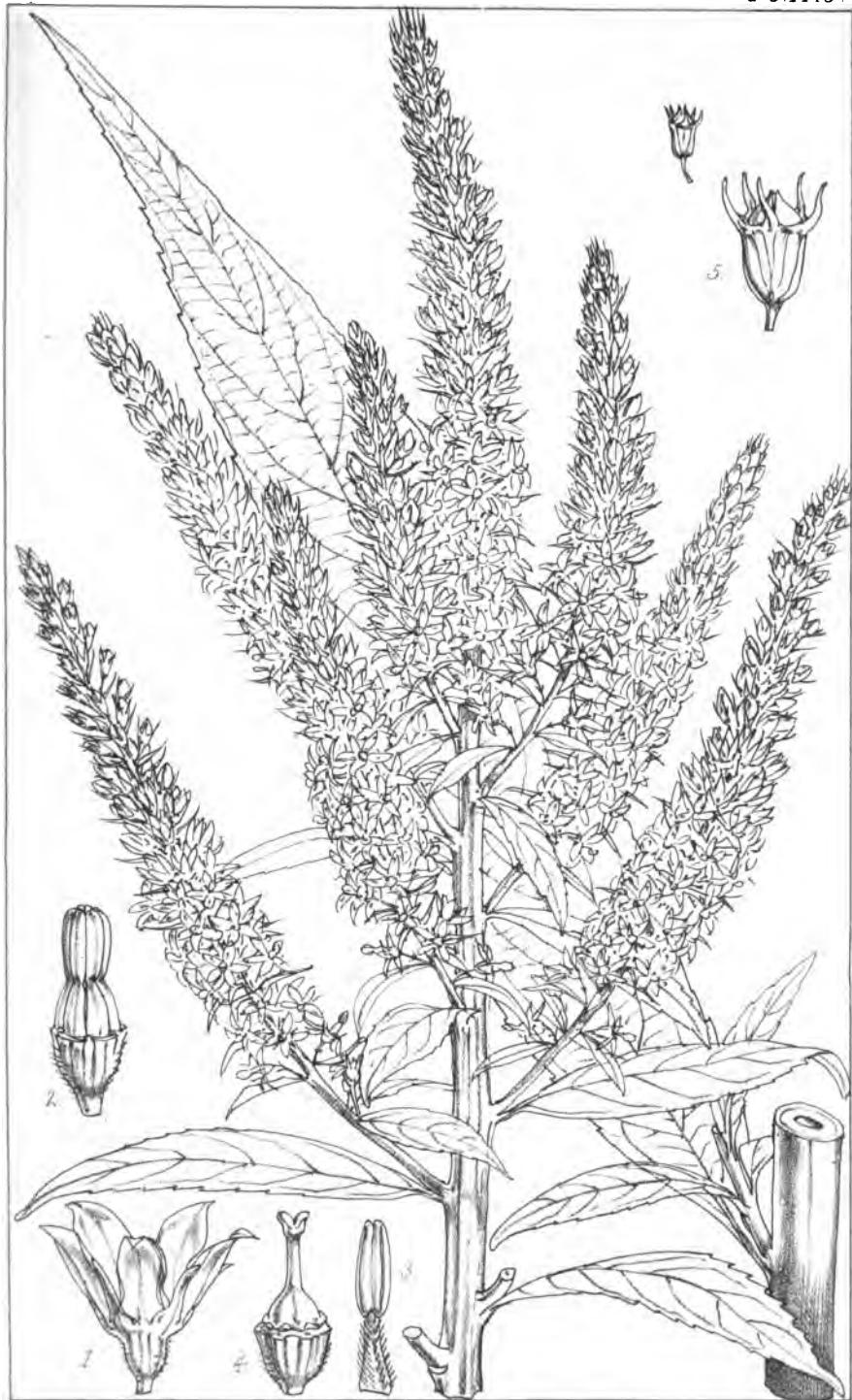


W. H. Fitch, del et lith.

J. N. Fitch, Jr.

*Heterotoma macrocentron*, Benth.



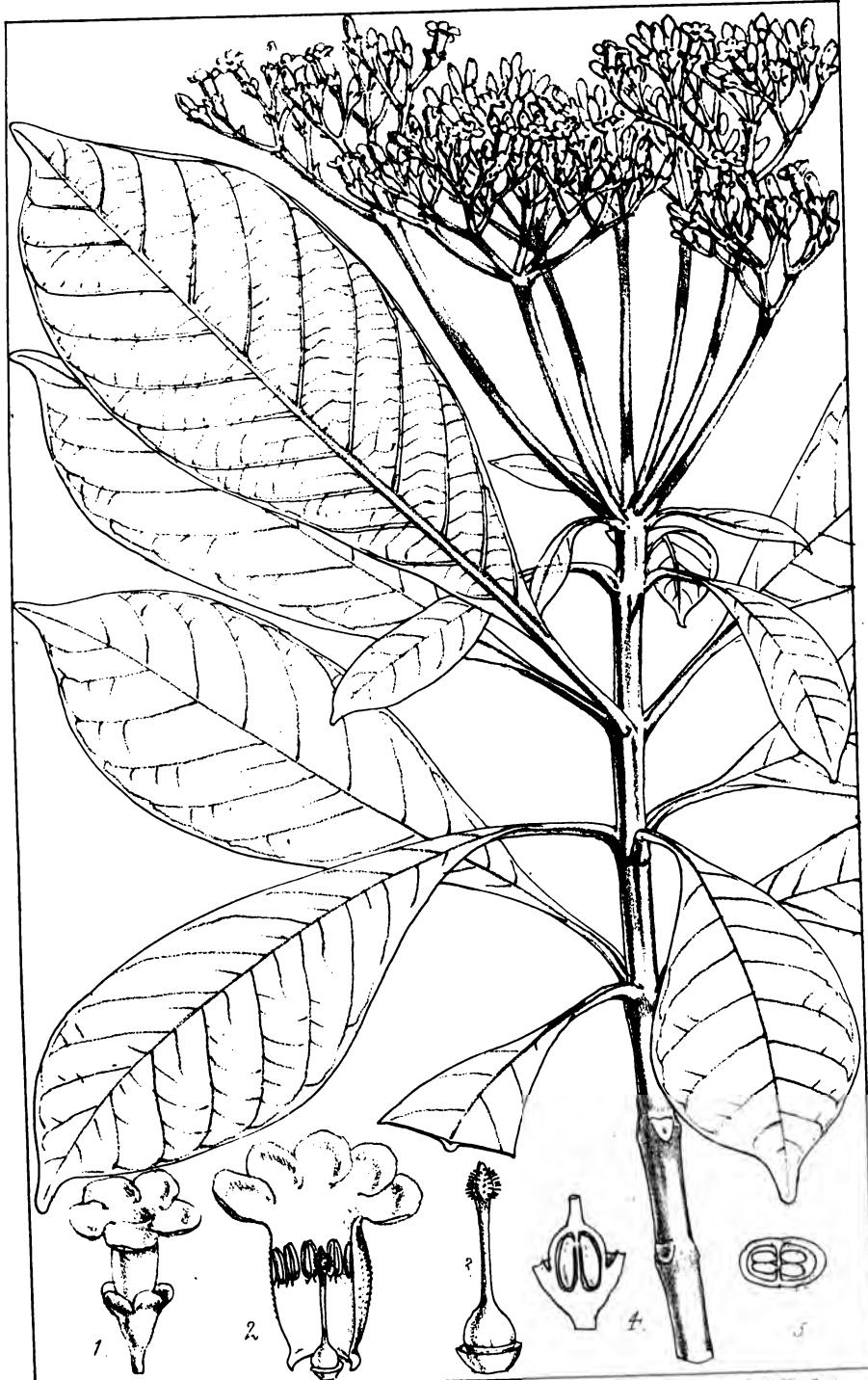


W. H. Fitch, del et lith.

J. N. Fitch, imp.

*Dialypetalum floribundum*, Benth.





W. H. Fitch, del. et lith.

J. N. Fitch

*Amblyocalyx Beccarii* Benth.

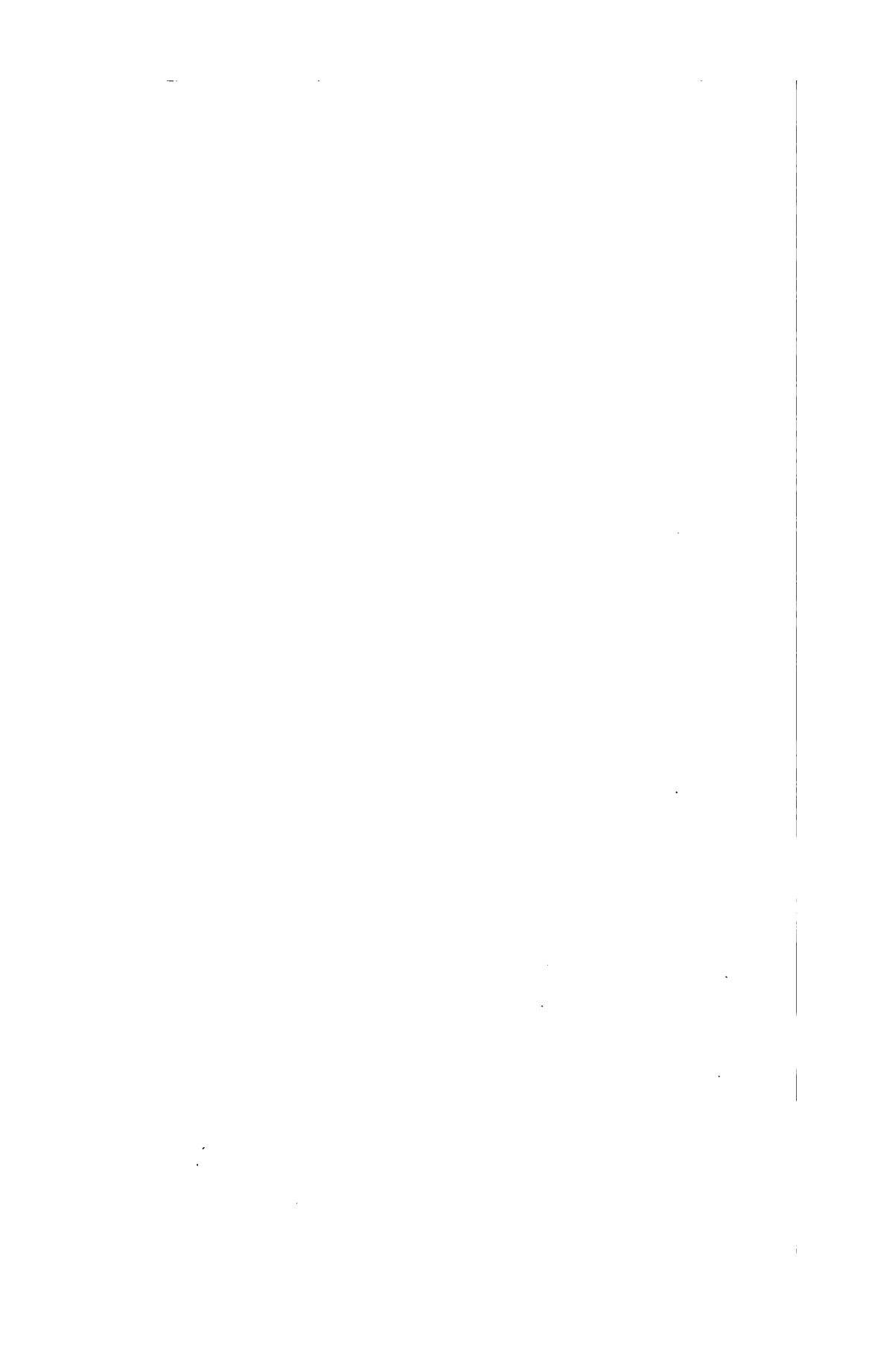


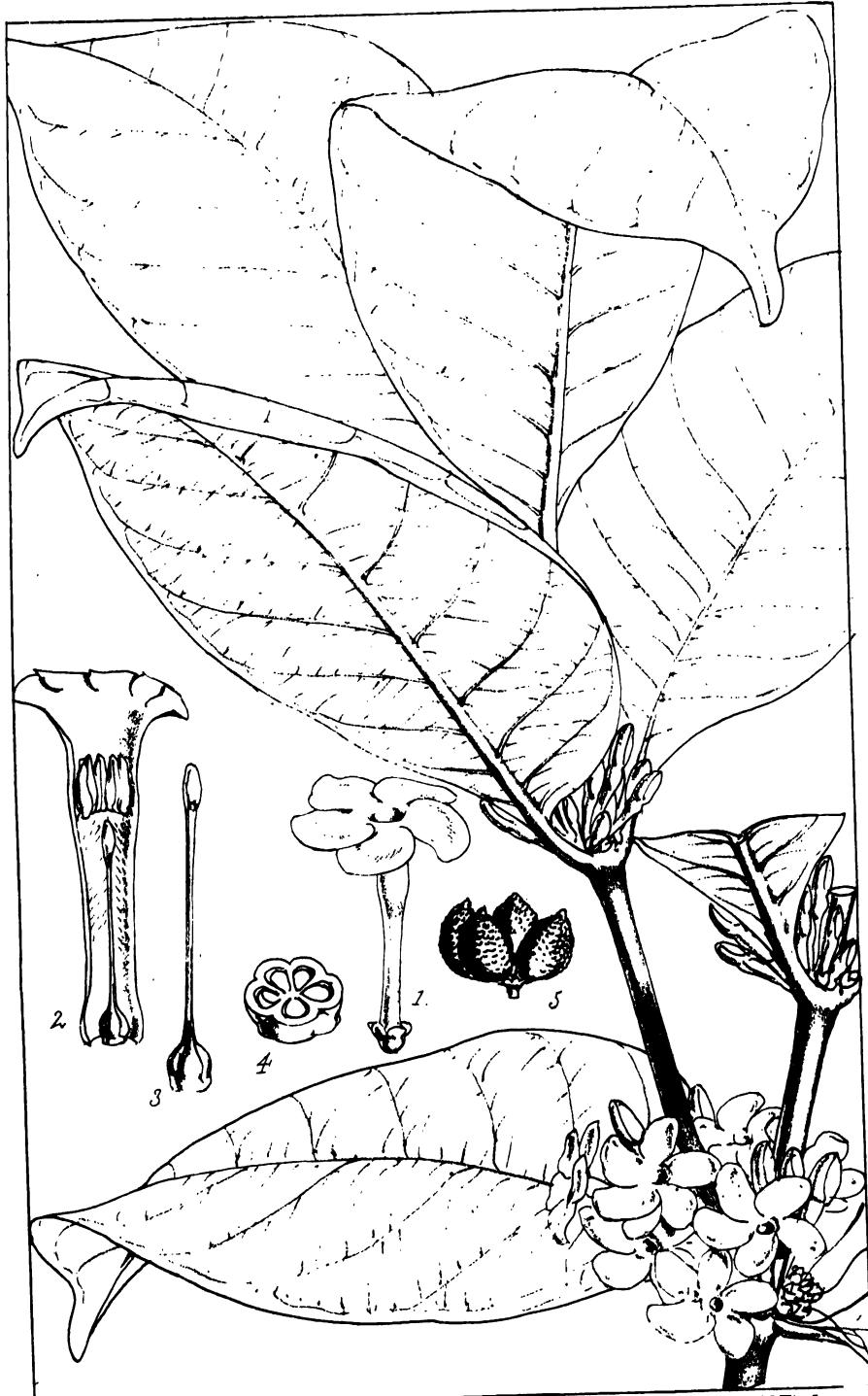


W. H. Fitch, del. et lith.

J. N. Fitch, im.

Notonerium Gossei, Benth.





W. H. Fitch, del. et lith.

J. N. Fitch

*Pleiocarpa mutica* Benth.

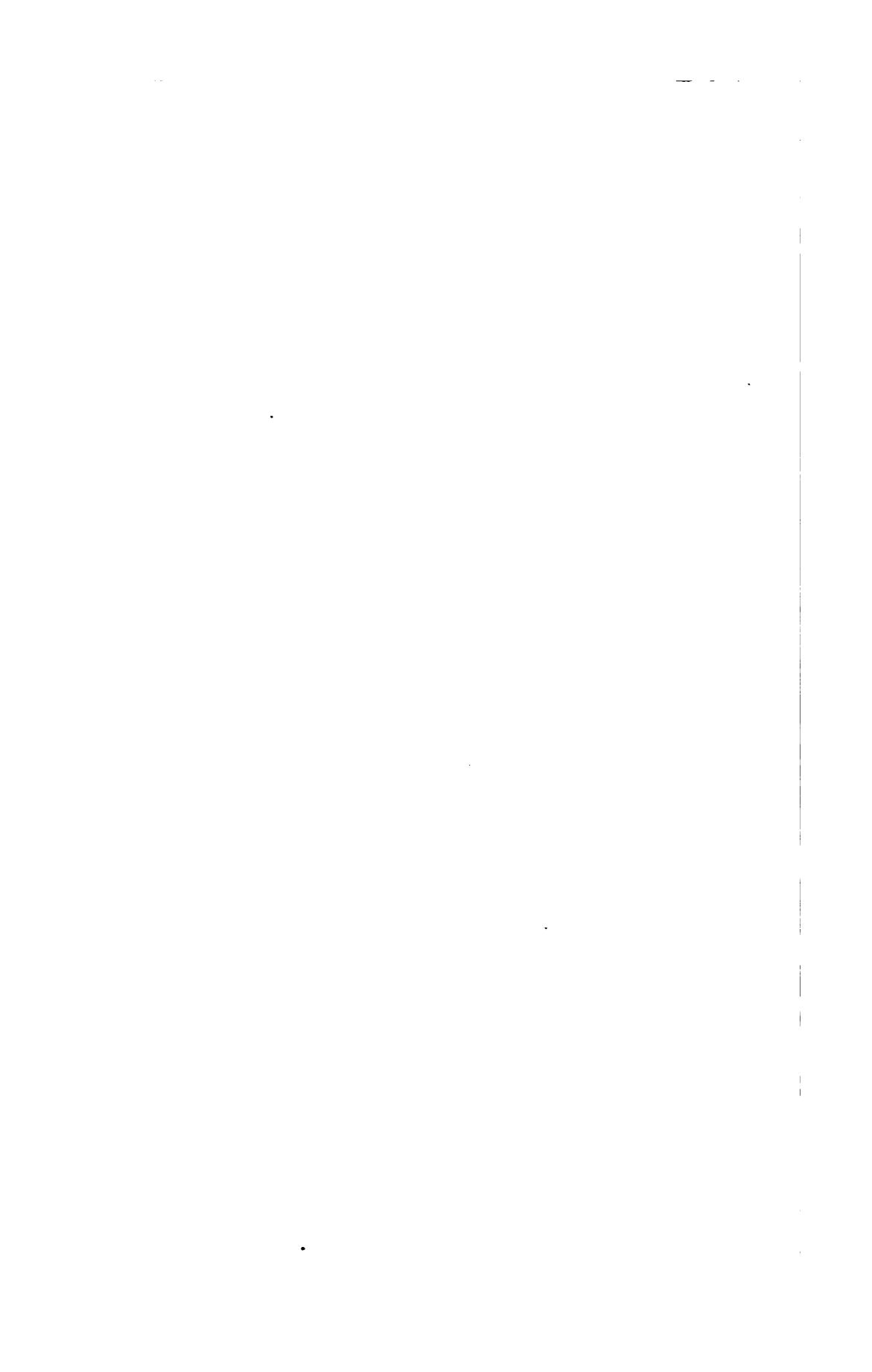




W. H. Fitch, del. et lith.

J. N. Fr.

*Pleocarta punctata* (L.) Benth.



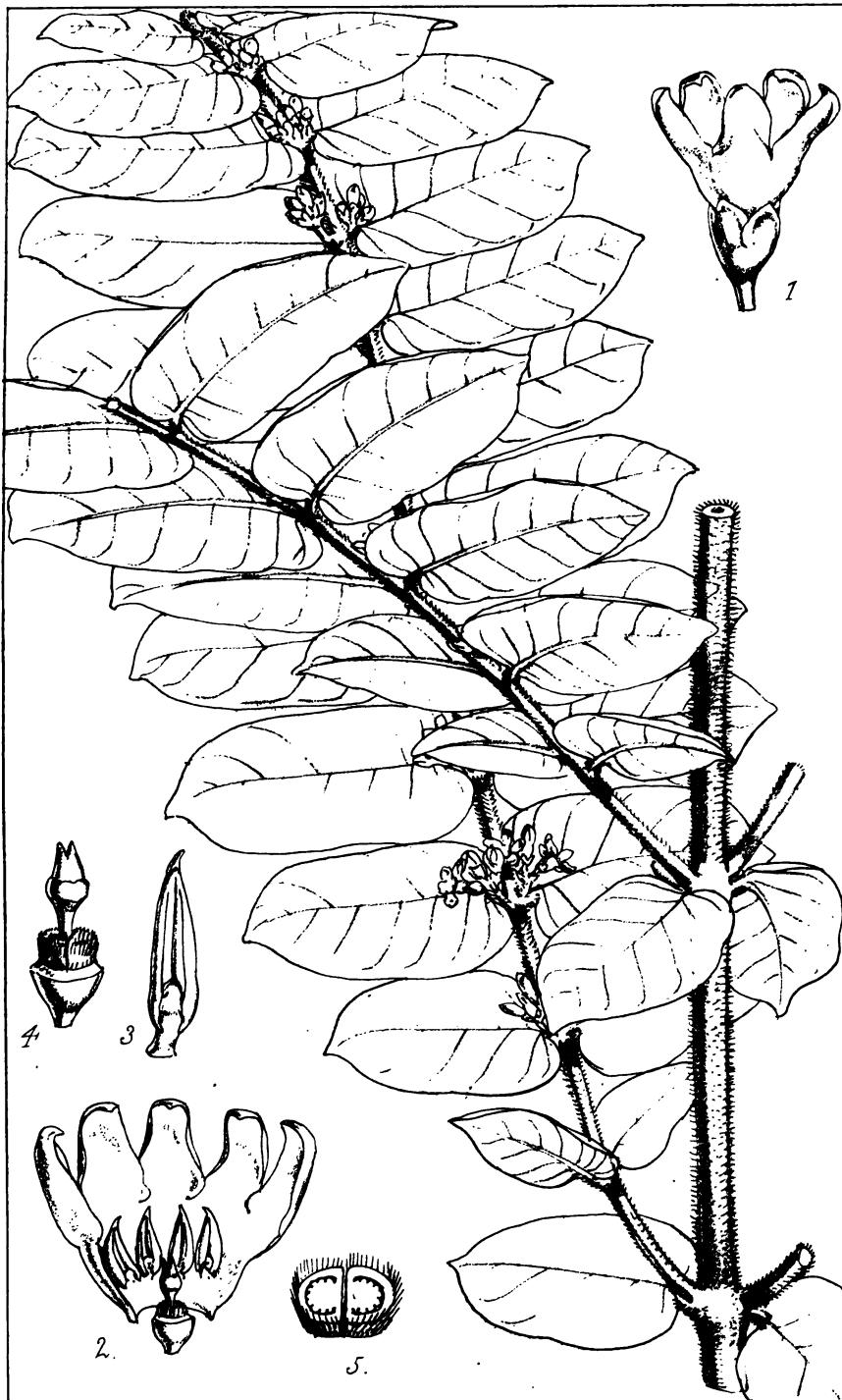


W. H. Fitch, del. et lith.

J. N. Fitch, ill.

*Pycnobotrya nitida, Benth.*



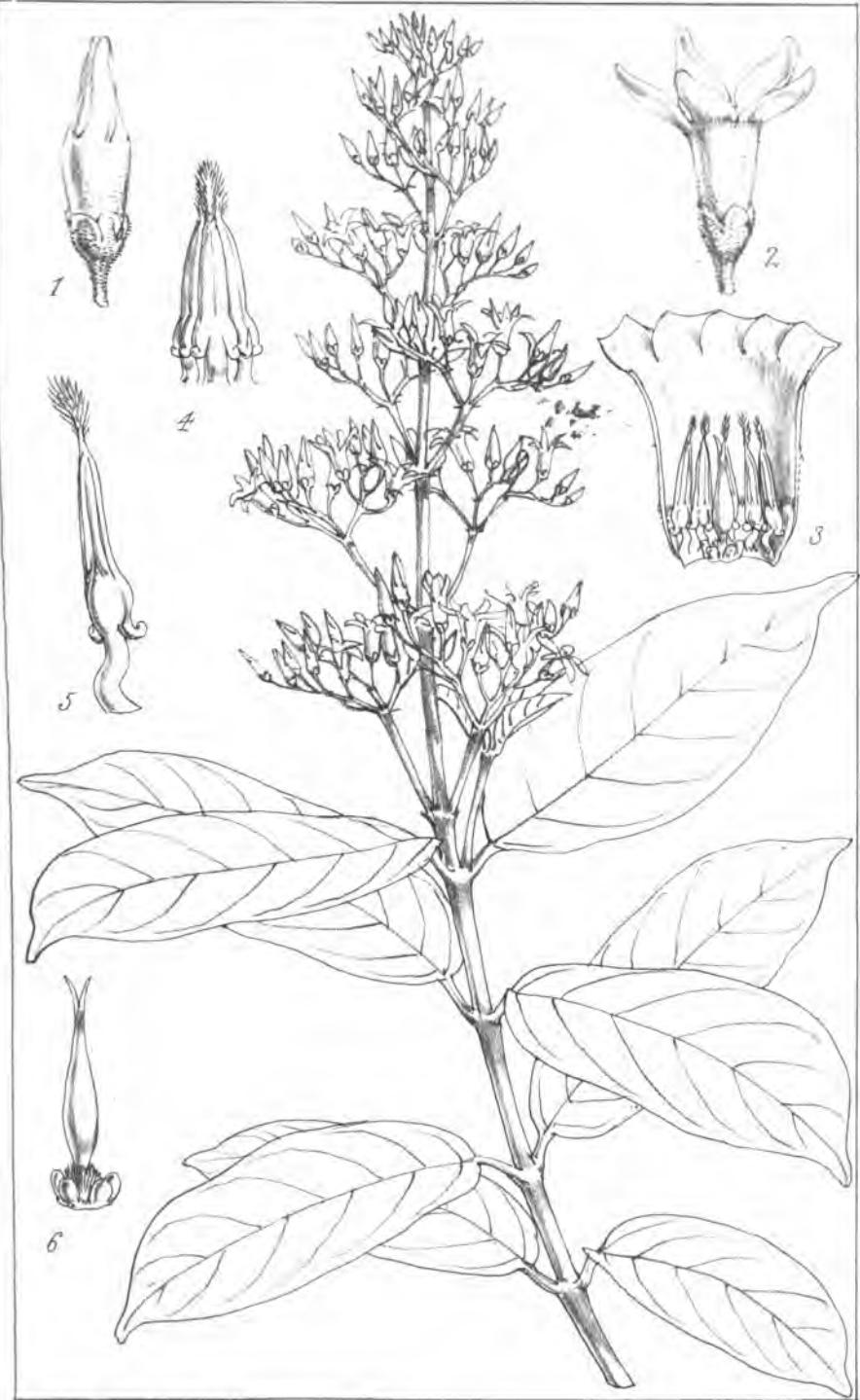


W. H. Fitch, del. et lith.

J. N. Fitch, imp.

*Zygodia axillaris*, Benth.





W. H. Pritch del. et lith.

J. N. Pritch imp.

Motandra guineensis, A. DC





W.H. Fitch, del. et lith.

J. N. Fitch, imp.

Gymnolæma Newii, Benth.





W.H. Fitch, del et lith.

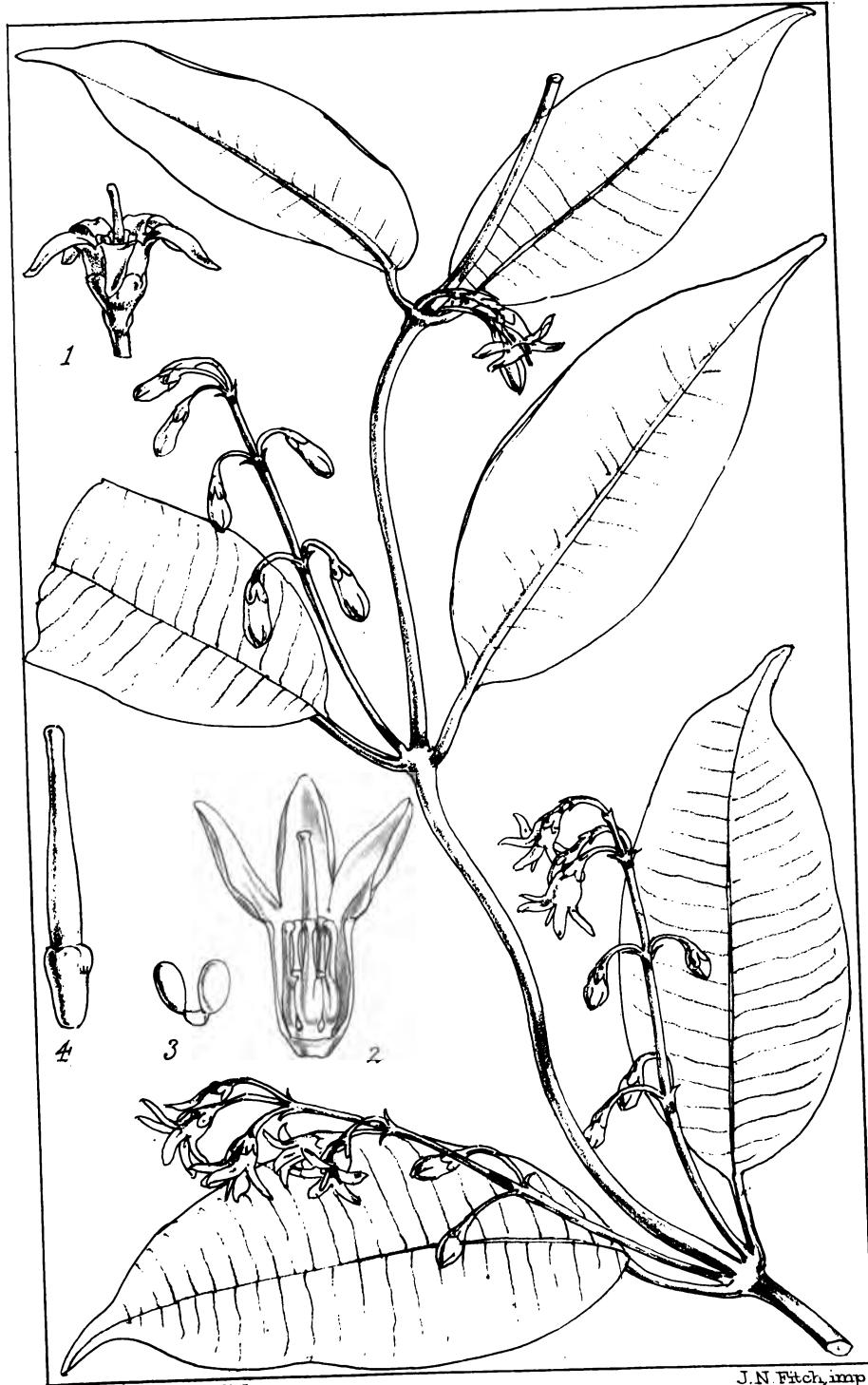
J.N. Etch, m.m.

*Ectadiopsis nigriflora*, Benth.







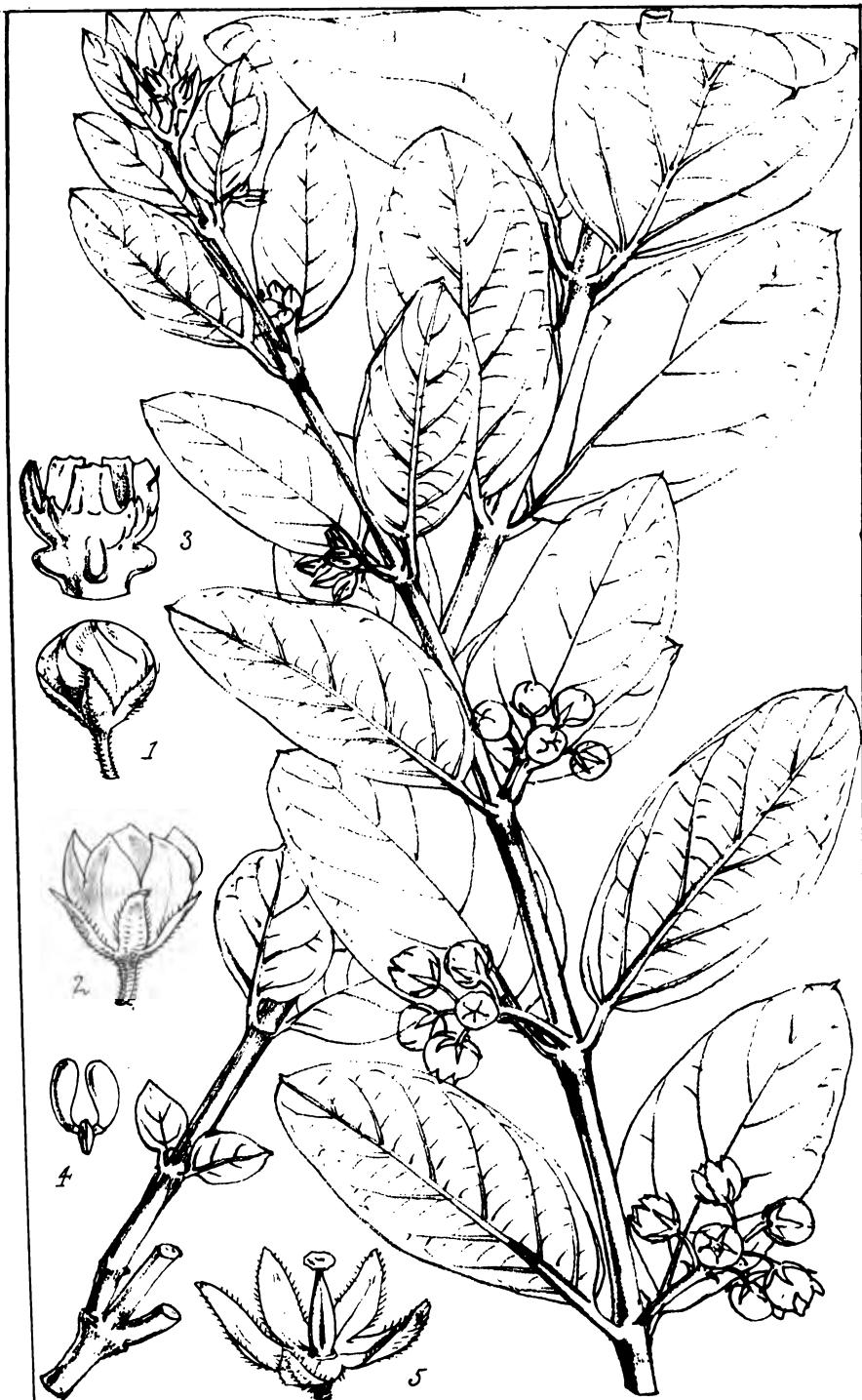


W.H. Fitch, del. et lith.

J. N. Fitch, imp.

*Rhynchosstigma racemosa* Benth.



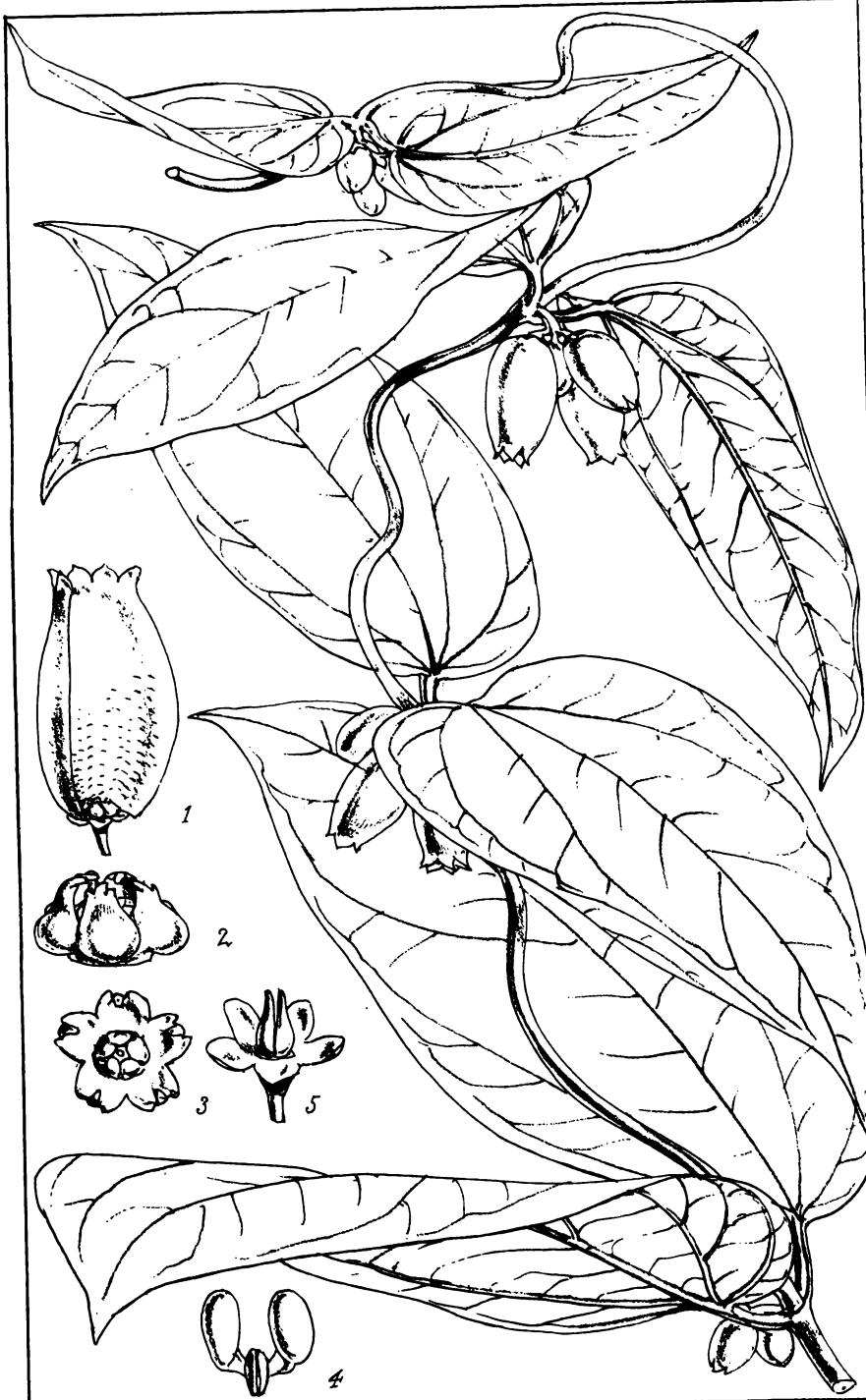


W.H. Fitch, del. et h.t.

J.N. Fitch, imp.

*Sphaerocodon obtusifolium, Benth.*



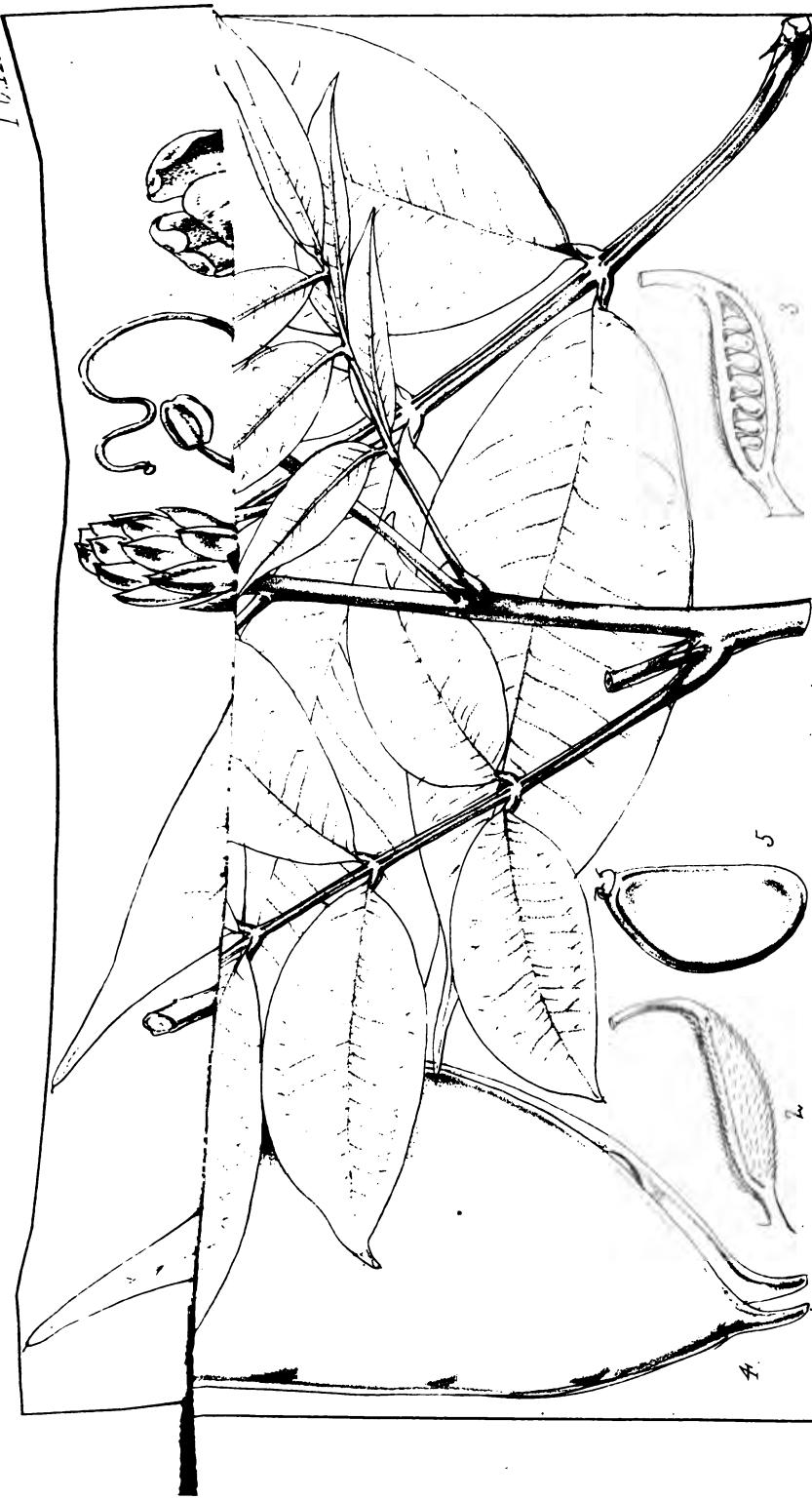


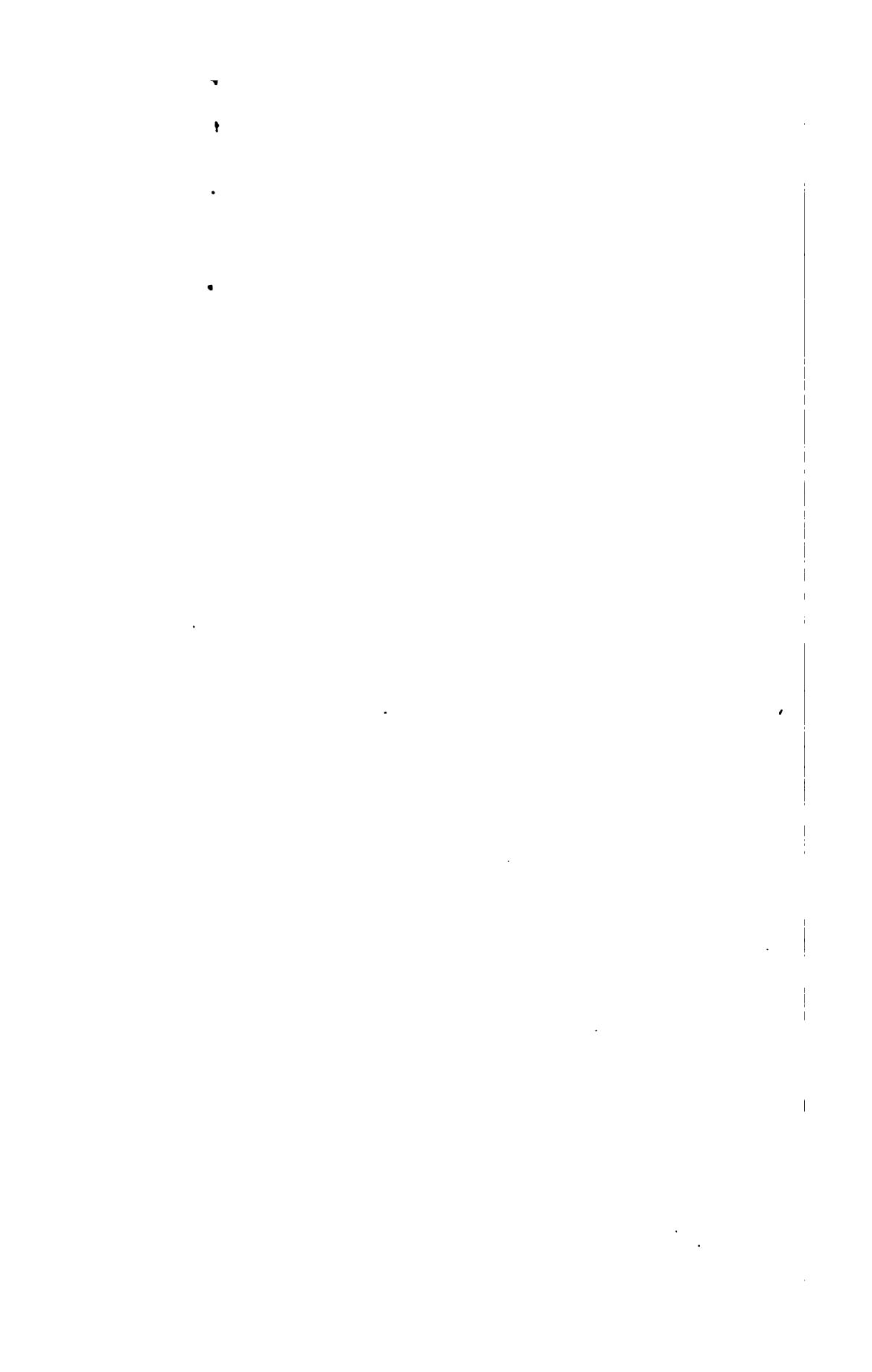
W. H. Fitch, del. et lith.

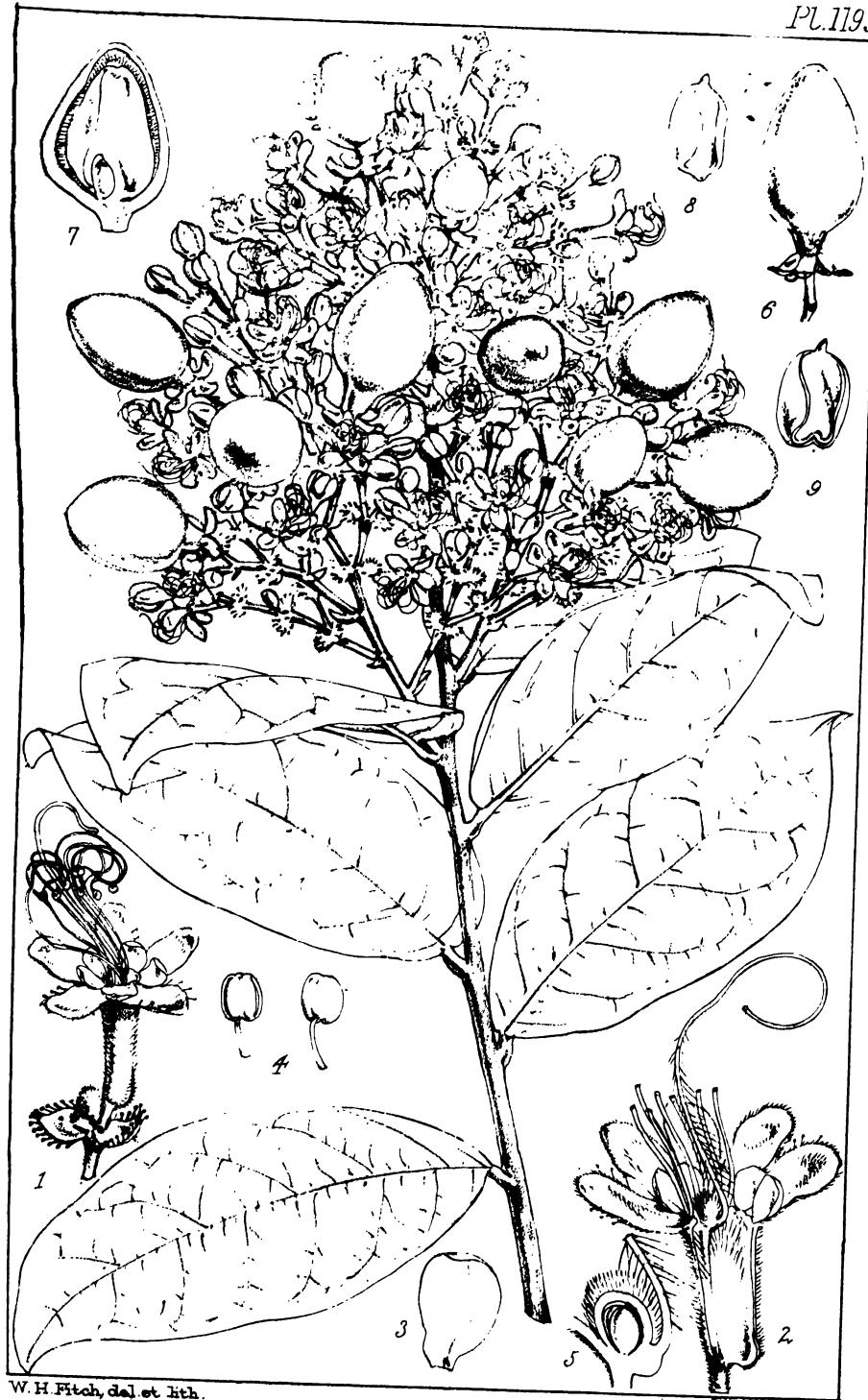
J. N. Fitch, imp.

*Dianthus urceolatus, Benth.*









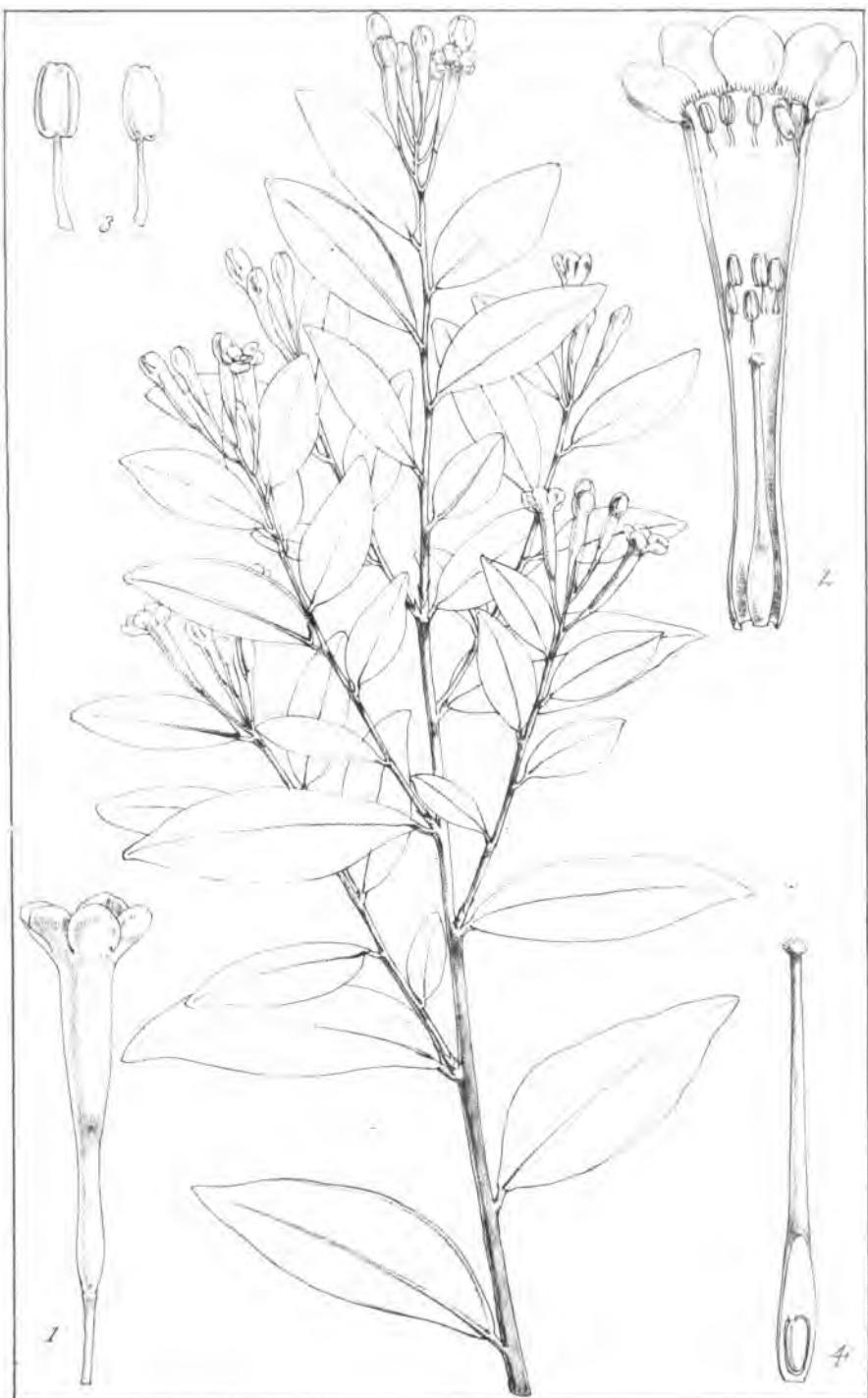
W. H. Fitch, del. et lith.

J. N. Fitch, imp.

*Hirtella zanzibarica*, Oliv.



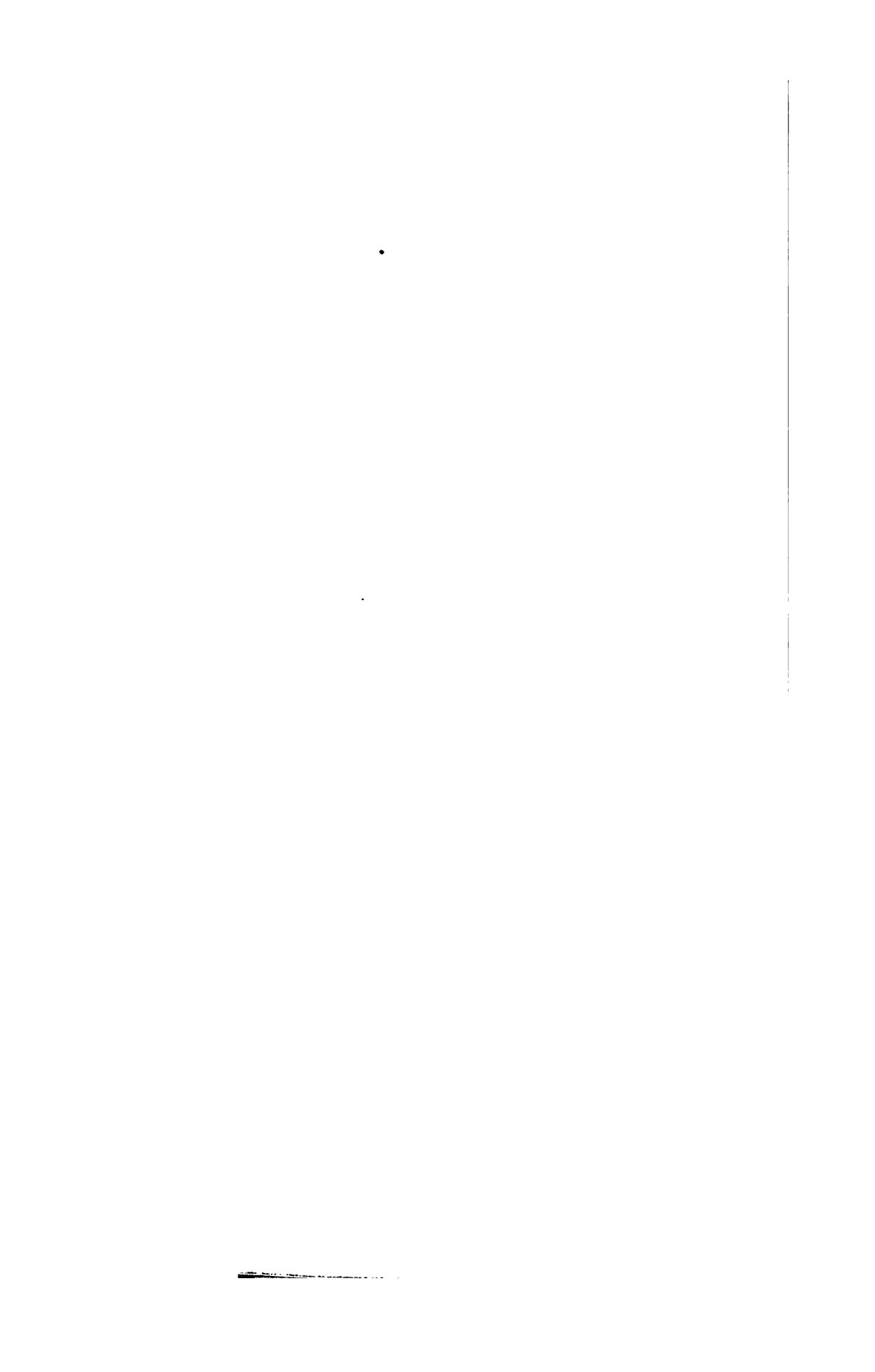
17.1744



W. H. Fitch, del. et lith.

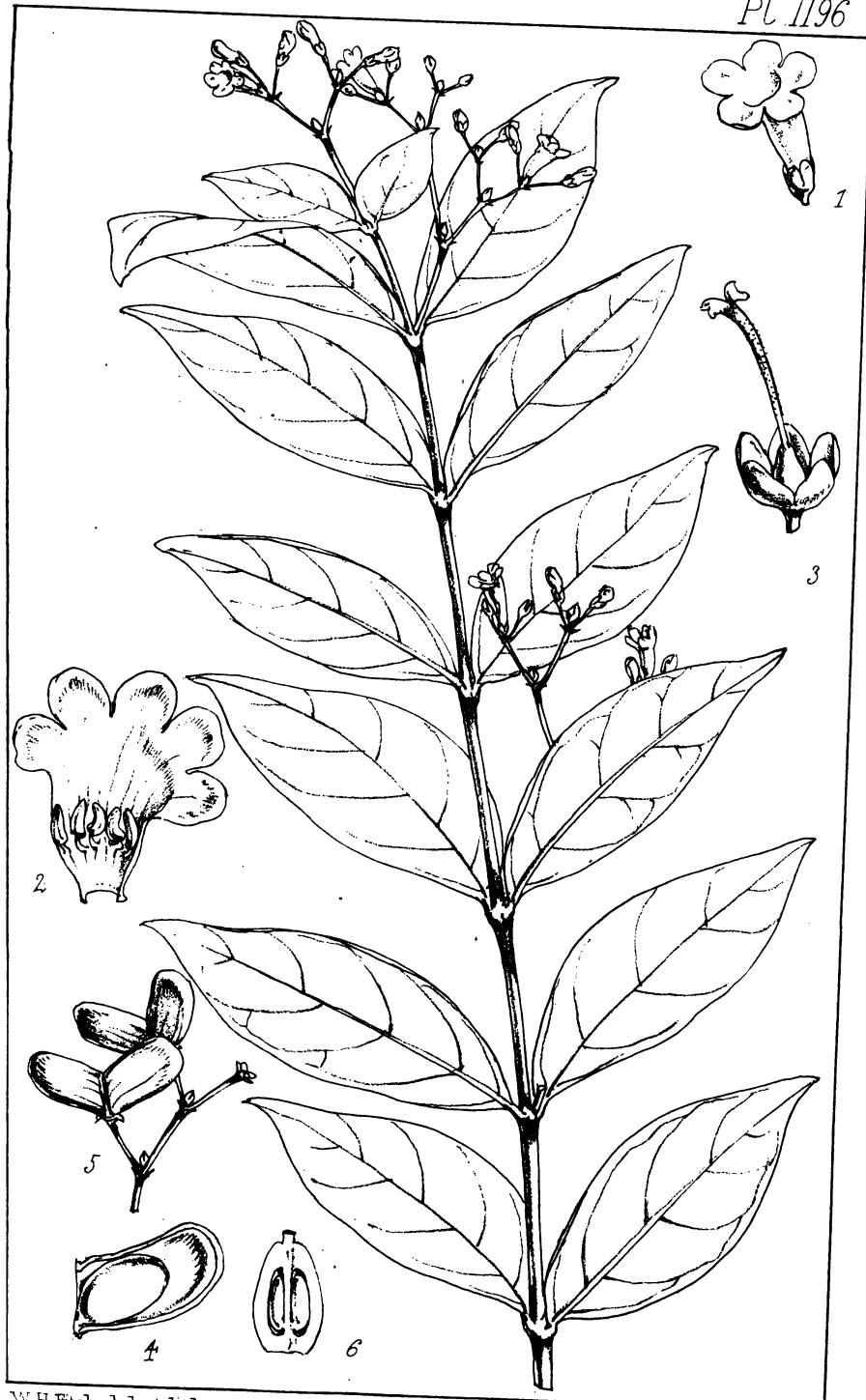
J. N. Fitch, inv.

*Synaptolepis alternifolia*, Oliv.







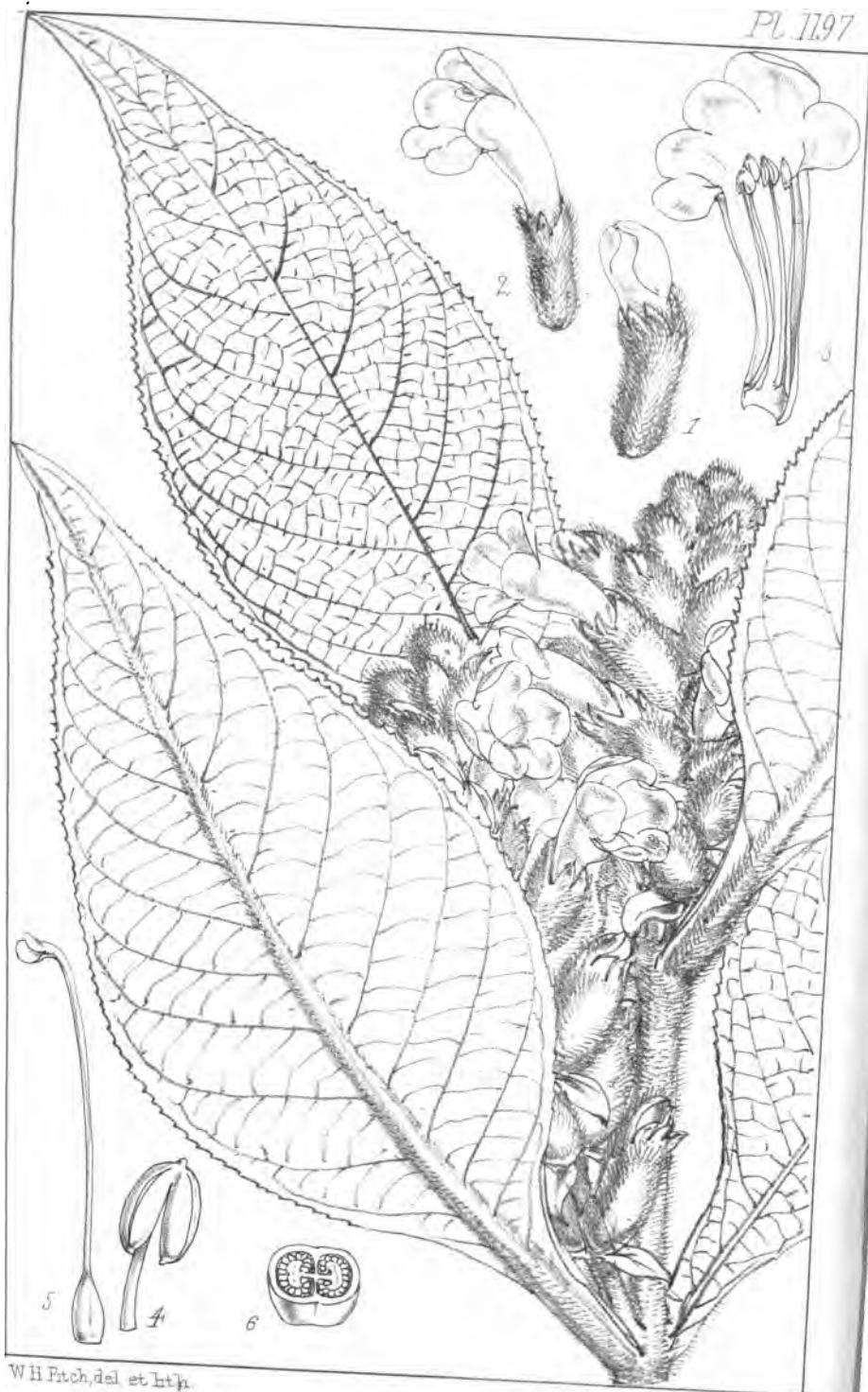


W H Fitch, del. et lith.

J. N Fitch, imp.

Mostuea surinamensis, Benth.

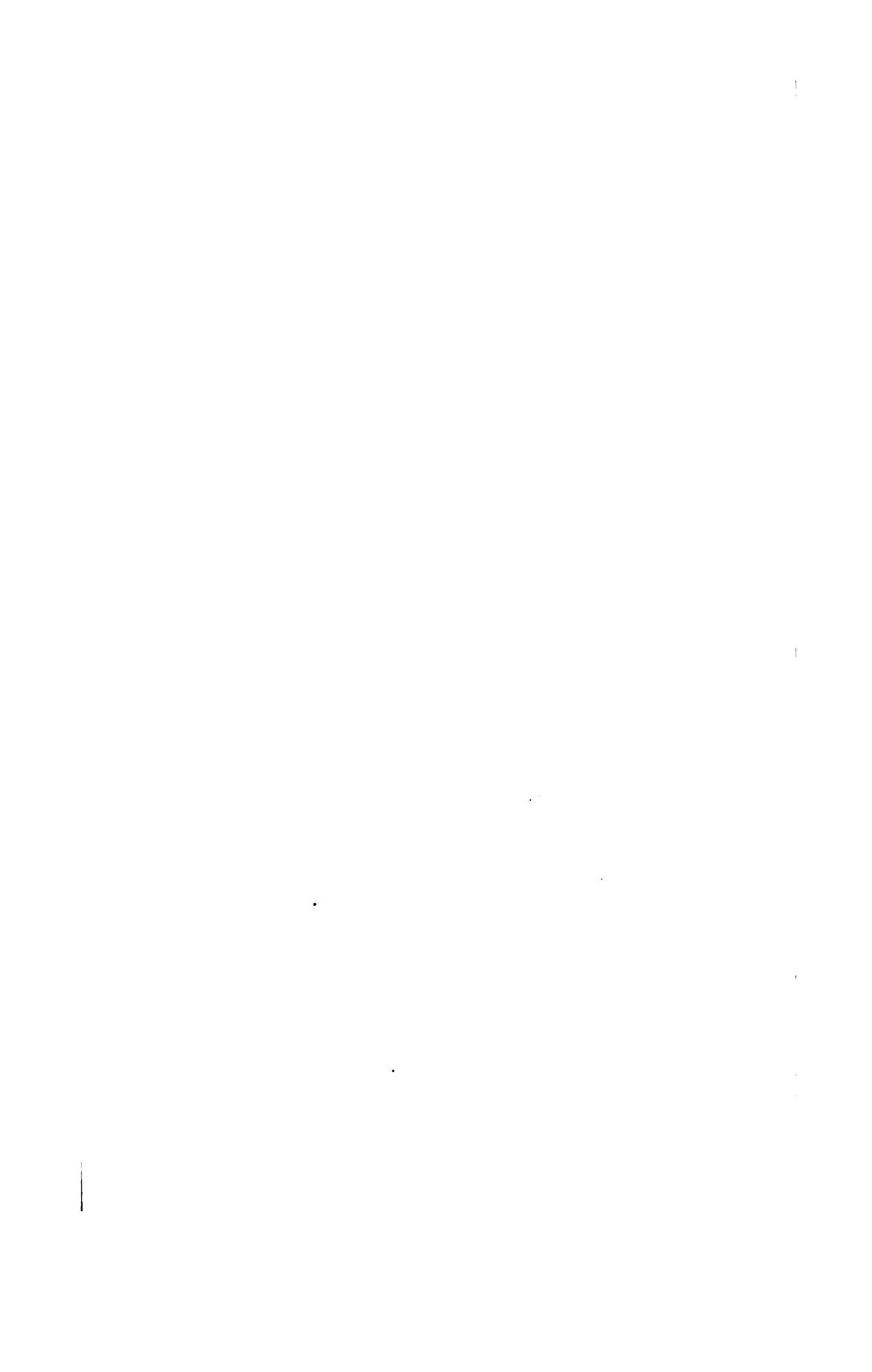




W.H. Fitch, del et lith.

J.N. Fitch, imp.

Brookea dasyantha, Benth.





W.H. Fitch, del. & lith.

J.N. Fitch, ir.

*Monopyle macrocarpa, Benth.*

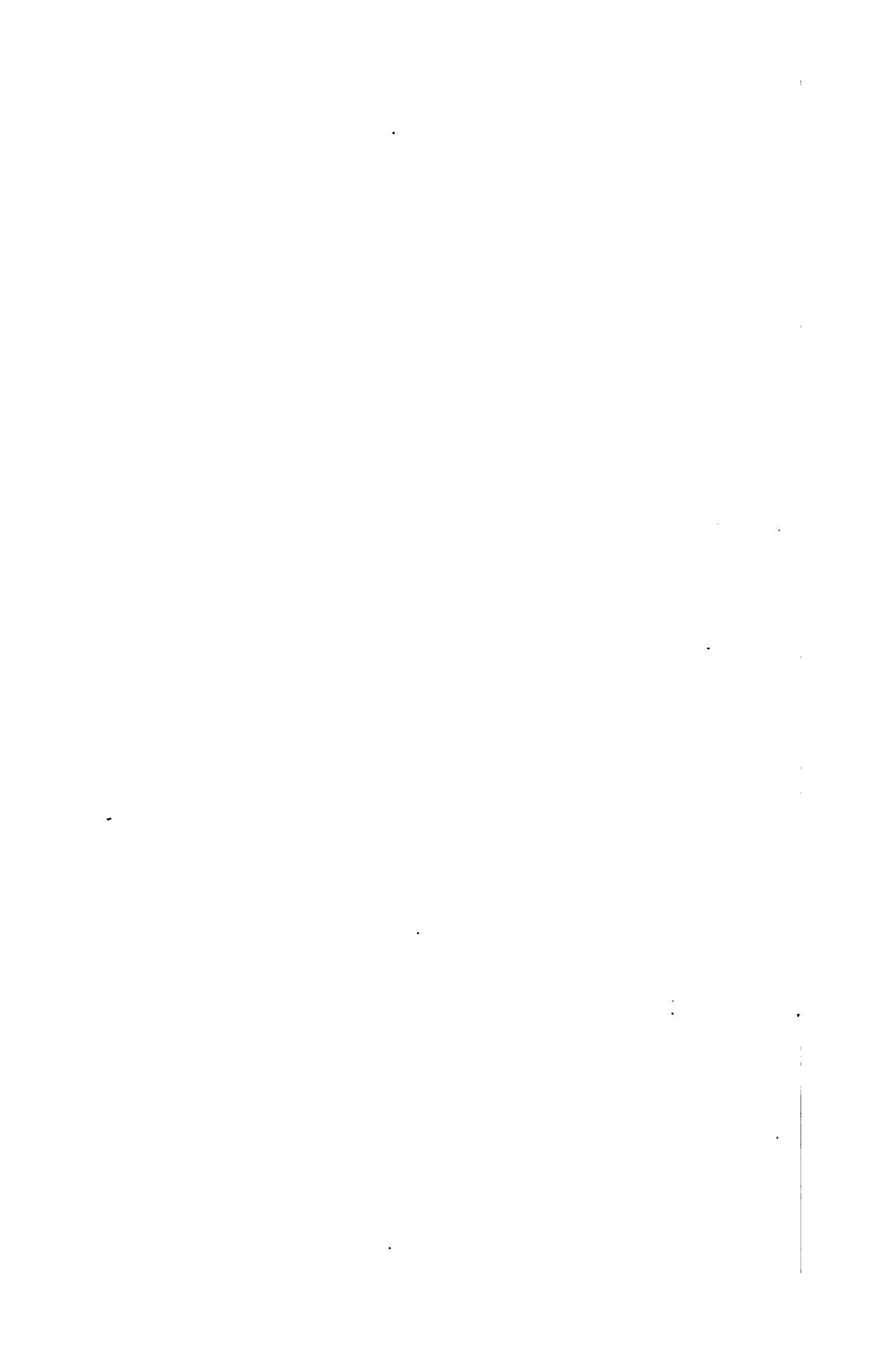




W.H. Fitch, del. et lith.

J.N. Fitch

*Anodiscus peruvianus*, Benth.





W.H. Fitch, del. et lith.

J.N. Fitch, imp.

*Neriacanthus Purdieanus, Benth.*



